A Study on the Development and Relationship between the Hong Kong and Shenzhen Airports

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ABSTRACT

The purpose of this study was to analyze the relationship of the Hong Kong and Shenzhen airports under two jurisdictions and explore whether closer cooperation and functional specialization could develop in these two airports in the context of regional integration.

There are close relationships among airports, passengers and airlines. The thesis first examines the development and relationship between HKIA and SBIA. In the second stage of the research, information is collected from a variety of sources by conducting questionnaire survey of passengers and a wide range of interviews. Detailed first-hand data are then analyzed and interpreted regarding the strength and weakness of HKIA and SBIA, the main factors in the choice of airports, and the relationship between the two airports. Interviews with representatives of airlines, the airport authorities as well as the scholar provides further information and views from various perspectives. This study will contribute to a better understanding of the relationship between HKIA and SBIA and possible solutions to existing problems.

According to second-hand data and personal interviews, many Hong Kong residents use the Shenzhen airport (SBIA) to fly to other destinations in Mainland China. On the other hand, there are an increasing number of mainland passengers who first fly to the SBIA, cross to the Hong Kong airport (HKIA), and then travel from there to the rest of the world. Interviews and a questionnaire survey were employed to examine passengers' choice of airports and assess different viewpoints of major players. It is found that majority of the respondents perceived

that the hardware and software of HKIA is better than SBIA, despite of the relatively more expensive air-tickets in HKIA.

The major players, including the Hong Kong Airport Authority (HKAA), Shenzhen Airport (Group) Co. Ltd. and Shenzhen's airlines, agree that there should be further cooperation between HKIA and SBIA. However, the Hong Kong airline that mainly provides services between Hong Kong and mainland has a different view. It is clear that the cooperation between two airports is a complicated issue.

Due to geographical proximity and a strong economic relationship between Hong Kong and Shenzhen, and different challenges facing two airports, a strategic alliance between the HKIA and SBIA is recommended. Moreover, cooperation with the other three airports in Greater Pearl River Delta Region, as well as code sharing between Dragonair and the other Shenzhen's airlines, is suggested.

摘要

本研究的主要目的是分析在不同管轄區下的香港機場和深圳機場之關係，並且探討這兩個機場能否在區域整合的背景下，發展更緊密的合作關係、或一定程度上的功能專門化。

機場、乘客及航空公司三者之間存在著緊密的關係。本論文先探討香港機場及深圳機場的發展及它們之間的關係。在研究的第二個階段，會從不同的渠道獲得資料，包括乘客問卷調查和訪談。利用這些詳細的第一手資料就兩個機場的優劣，選擇機場的主要原因及兩個機場之間的關係——這三個範疇作深入分析。更多的資料亦從與航空公司和機場管理局的代表及學者作的訪談中獲得。這次研究能有助於更深入地了解香港機場和深圳機場之間的關係，並能爲現存的問題提供可行的解決方法。

根據第二手資料及個人訪談的調查得知，很多香港居民選擇使用深圳機場飛往國內各城市。另一方面，亦有愈來愈多的國內乘客選擇先飛往深圳機場，再使用其他交通工具到香港機場轉飛世界各地。透過訪談及問卷調查，亦分析乘客選擇機場的原因及各主要參與者的意見。研究發現除了香港機場的機票價格較昂貴這個因素外，大部分的被訪者均認爲香港機場的硬件和軟件都較深圳完善。

當中的主要參與者，包括：香港機場管理局、深圳市機場(集團)有限公司和深圳的航空公司，均認爲香港機場和深圳機場應加強相互間之合作。然而，專門提供航班來往香港與國內城市的香港航空公司卻持有不同的意見。這顯示出兩個機場間的合作的確是個複雜的問題。

由於香港與深圳的地理位置鄰近，兩地的經濟關係密切，而且兩地機場均面對不同的挑戰，故本研究建議這兩個機場應實行策略性聯盟。此外，它們亦應促進與其他三個珠三角機場間的合作，港龍航空亦應與其他深圳的航空公司達成代號共享的協議。

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Chapter 1

INTRODUCTION

1.1 General Background

The development of airports is crucial to national or regional development, especially in the age of globalization. A knowledge-based economy relies much upon the air transport for facilitating international trade and face-to-face contact between the key actors of corporations. Regardless of whether airports act as a catalyst or facilitator of economic development, a sizable airport is essential to make a nation or region an ideal location for attracting foreign direct investment. An airport with a well-developed network can attract global firms to set up global or regional offices in its city as it provides good links with the rest of the world. The tourism industry also relies heavily on the air traffic for its growth. Many studies also show proof of strong connections between the regional economic growth and air connectivity (Jin et al, 2004). Furthermore, airports play an important role in creating high-income jobs, deepening the technological sophistication of national/regional economies and instilling a sense of national/local pride. Hence, access to good air transportation is critical to the competitiveness of a nation or region.

As the development of air transportation provides efficient and safe movements of people and goods, there have been rapid and constant growths in air traffic in the past few decades. After two China's airline reforms that occurred between 1980 and 1987, China is increasing in importance and playing a key role in the aviation networks in the world. In addition, as the economic

development of China is growing dramatically, the air transportation in China is benefited. China is predicted to be the fastest growing aviation market in the world over the next twenty years. Beijing, Shanghai/Hangzhou and Guangzhou/Shenzhen are the three main airport hubs in China, which forms as a major flight corridor to provide both passenger and cargo traffic for the regions. There is always intensive competition among these regions.

One of the most hotly discussed regions is the Greater Pearl River Delta (GPRD) region. The GPRD region consists of Hong Kong Special Administrative Region (SAR), Macau Special Administrative Region and the Pearl River Delta (PRD) region. Five international airports are located there serving a region in only 50 kilometers radius, including Hong Kong International Airport (HKIA), Guangzhou Baiyun International Airport (GBIA), Shenzhen Baoan International Airport (SBIA), Macau International Airport (MIA) and Zhuhai Airport (ZA) (Figure 1.1). The PRD region is a key region in economic growth and attracting foreign investment in China.

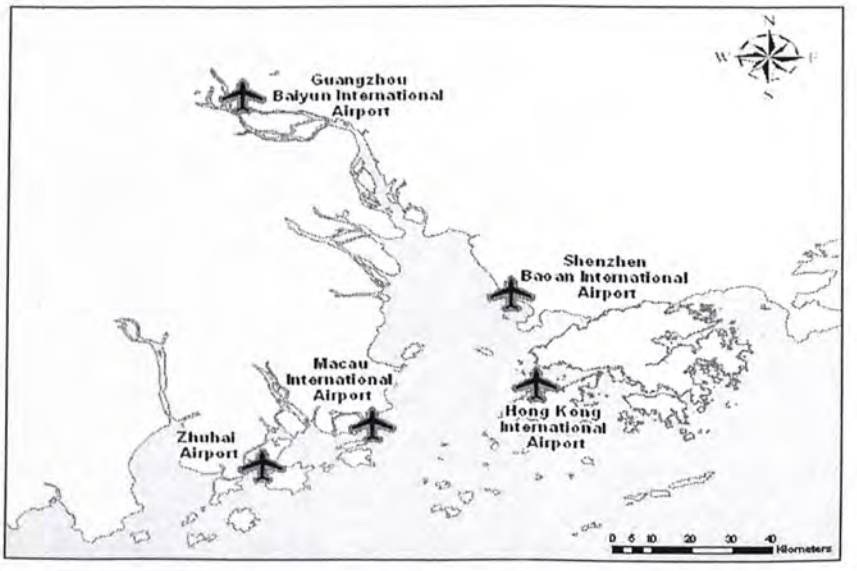

Figure 1.1 The locations of the five GPRD airports
Source: Based on Airport Authority Hong Kong (2002c) with revision.

With the return of Hong Kong and Macau to Chinese sovereignty in 1997 and 1999 respectively, the two SARs, especially Hong Kong provide an excellent platform for the whole country to integrate into the global economy. Given the high population density, high mobility of people, goods and information, and the geopolitical importance of the GPRD region in China, the region will be a crucial and pivotal driver of air transportation in the country. However, the artificial barriers exited among the five airports would undermine their efficiencies. It has been claimed that there is no need to build five airports in a region only within 50 kilometers in radius (Wang, 2002; Shen, 2002). Notwithstanding, according to the scholar interview in this study, some scientific analyses show that the sources of passenger and cargo can be well distributed by the five international airports that even lead to better growth, if a closer cooperation can be fostered among the five airports. Therefore, a better regional coordination would be the key to ensure the competitiveness of the airports in the GPRD region, even though competition from other airport hubs in China are emerging to undermine the GPRD's important role in the aviation market in the country.

Hong Kong and Shenzhen have two major airports in the GPRD region those serve the residents in both cities as well as their surrounding areas. The Hong Kong airport has many international services, while the Shenzhen airport offers many domestic services to cities in the mainland. The cooperation and competition between the two airports have become important issues. As a result of tremendous economic growth in Hong Kong and Shenzhen, the two airports have had more interaction than ever before.

Other than Hong Kong airport, there are mainly three reasons for choosing the Shenzhen airport in this study. The first is the close proximity between the Hong Kong and Shenzhen airports. Second, there is a strong tie between these two airports. Despite of the direct shuttle bus service between these two places, there are also high-speed ferries offer a link between the two airports for passengers, which allow them to bypass immigration and customs formalities. Finally, the relative cheap fares of SBIA are another reason for choosing it in this research. In the year 2000, 0.43 million Hong Kong residents traveled to and from various mainland cities via SBIA and many mainland residents have been attracted to use HKIA via SBIA for destinations in the rest of the world, owing to a more competitive fares offered by SBIA (Anonymous, 2002).

On the other hand, there are a few reasons for not choosing the other three airports in the GPRD region. As reported in 2002 by the Secretary for Economic Services, Ms Miranda Chiu, owing to the long distance of GBIA from Hong Kong, the utilization rate of this airport by Hong Kong residents was very low. In addition, the low passenger throughput, as well as relatively few flights to and from ZA and MIA, also decreased the utilization rate of these two airports by Hong Kong residents (Anonymous, 2002). Therefore, all these three airports have little influence on HKIA.

1.2 Objective and Significance of the Study

Considering the above phenomenon, this study aims to analyze the relationship between the Hong Kong and Shenzhen airports under two jurisdictions and explore whether closer cooperation and functional specialization could develop in these two airports in the context of regional integration. These aims can be specified by four research questions:

1) What is the current relationship of HKIA and SBIA?
2) What are the main causes of such relationship between HKIA and SBIA?
3) What are the opinions of various players on the relationship between HKIA and SBIA?
4) How should HKIA and SBIA develop in the coming future?

In relation to these questions, four central objectives of this study are as follows:

1) Analyze the characteristics of airports and airlines, and the relationship between HKIA and SBIA;
2) Examine the main factors of passengers' choice of airports;
3) Identify the different perceptions and roles of the major players in the relationship between HKIA and SBIA;
4) Make recommendations for the two airports for future development

The GPRD region is a crucial and pivotal driver of air transportation in the country. However, there are five airports in a region only within 50 kilometers in radius. The cooperation and competition between the two airports have become

important issues. As a result of tremendous economic growth in Hong Kong and Shenzhen, the two airports have had more interaction than ever before. Therefore, a better regional coordination would be the key to ensure the competitiveness of the airports in the GPRD region.

An airport provides both passenger and cargo services. This research focuses on the relationship between HKIA and SBIA in terms of passenger services. Different sets of stakeholders are involved in cargo services that will be an interesting topic in further research. According to previous studies reviewed in this thesis, there are close relationships among airports, passengers and airlines. The thesis first examines the development and relationship between HKIA and SBIA. In the second stage of the research, information is collected from a variety of sources by conducting questionnaire survey of passengers and a wide range of interviews. Detailed first-hand data are then analyzed and interpreted regarding the strength and weakness of HKIA and SBIA, the main factors in the choice of airports, and the relationship between the two airports. Interviews with representatives of airlines, the airport authorities as well as the scholar provides further information and views from various perspectives. This study will contribute to a better understanding of the relationship between HKIA and SBIA and possible solutions to existing problems.

1.3 Structure of the Thesis

This research analyzes the relationship between HKIA and SBIA and their development in passenger traffic. The thesis is organized as follows. This chapter starts with stressing the importance of airport in a country and introducing the issues of airports in the GPRD region. Then the research objectives and significance of the study are outlined.

This is followed, in Chapter 2, by a literature review of previous studies on the regional development of the GPRD region, the development and governance of the airports, and the relationships among airports, airlines and passengers. The conceptual framework and methodology for this study is also outlined in Chapter 2.

The details and development of HKIA and SBIA is presented in Chapter 3. The two airports are also compared about the general condition, financial condition, as well as the performance of their home carriers. Chapter 4 analyzes the data obtained from the passenger questionnaire survey and the interviews conducted with the relevant airlines, airport authorities and a scholar whose research focus is on the airports in the GPRD region.

Chapter 5 discusses the current relationship between HKIA and SBIA and some recommendations are proposed on the cooperation of two airports. The last chapter concludes the thesis.

Chapter 2

LITERATURE REVIEW AND METHODOLOGY

Hong Kong and Shenzhen have two major airports in the Greater Pearl River Delta (GPRD) region that serve the residents in both cities as well as their surroundings. The cooperation and competition between the two airports have become important issues. This chapter reviews previous studies related to the regional development and the development of airports especially in the GPRD region. Research framework and methodology for this study are then outlined and discussed.

The principal purpose of this chapter is to examine the current theoretical and empirical studies on regional cooperation and competition, especially those related to airports. Major advancements, findings and weaknesses in previous studies will be identified for further research. According to the perspective of airports, there are mainly two kinds of factors that are the focus of existing studies: external factors and internal factors. The external factors include geographical location, regional economic development and different institutional systems, whereas the internal factors refer to the characteristics of airports and airlines.

2.1 External Factors

2.1.1 Theoretical Findings in Regional Development and Governance

Hong Kong and the neighboring Shenzhen join with each other in various aspects. For instance, they are facing similar challenges such as functional specializations and they share some common planning and development visions. Hence, cross-boundary cooperation is needed to enhance the common interest of both cities; otherwise there will be fierce competition. Some authors have studied this kind of relationship from governance perspective. Cheung (2002) and Chen (2002) studied the cooperation and integration in the PRD region, while Hegel et al. (2003) studied metropolitan cooperation in Europe. They all claimed that cooperation has different stages starting from low intensity to deeper and mutual integration.

According to Cheung (2002), the cooperation between Hong Kong and Shenzhen should move towards a new stage characterized by three developments: (a) from limited cooperation spearheaded by society to multidimensional cooperation led by government. (b) from spontaneous and market-driven cooperation to both market-led and government-coordinated cooperation. (c) from labor-intensive industries cooperation to the development of a division of labor with rationalization of resource allocation and technological innovation as its main theme.

Chen (2002) claimed that the process of regional integration could be divided into two modes, functional integration and institutional integration. The former process is a kind of economic activity under the autonomous market forces, and it reflects the need to integrate domestic market for economic

development. The later process is an agreement directed by the governance system and the institutional arrangements specifically designed for such integration. Chen (2002) believed that the institutional integration lags behind the functional integration, which needs both governments to reinforce the cooperation under the institutional system. Heeg et al. (2003) analyzed the cooperation in European countries from a theoretical point of view. They addressed the differences in the type and intensity of cooperation. The first level of cooperation is just the exchange of experiences and problem-solving knowledge. The latter comes to a deeper and mutual form of cooperation, which involves developing new institutional arrangements and managing the exchange of goods and services between the participating cities. These studies provided insightful analyses on the stages and forms of regional development and governance issues.

2.1.2 Empirical Findings

The regional development of the Greater Pearl River Delta Region

China's GPRD region has already emerged as one of the most dynamic economic regions in this new century, with a population of about 48 million and a land area of 42, 824 square kilometers. This is the fastest growing and most affluent region in China, which is often referred to as the 'world factory'. This region consists of the Hong Kong Special Administrative Region, the Macau Special Administrative Region, and the Pearl River Delta (PRD) Economic Zone portion of Guangdong Province, including the following 9 municipalities: Dongguan, Foshan Guangzhou, Huizhou, Jiangmen, Shenzhen, Zhaoqing, Zhongshan as well as Zhuhai. These areas are connected by geography as well as common linguistic and cultural heritage. The economic development in this

region took a marked turn with the onset of China's reform program in 1979. The PRD region, the main part of the GPRD region, enjoyed preferential policies such as tax concessions and land leases, which stimulated the inflow of capital and attracted investment from Hong Kong, Macau, Taiwan and other countries. The Gross Domestic Product (GDP) of the PRD region increased very rapidly from US$ 113.75 billion in 2002 to US$138.70 billion in 2003, while the GDP per capita increased from US$4,142 in 2002 to US$5213 in 2003 (Department of Foreign Trade and Economic Cooperation of Guangdong Province, 2004). These figures show the remarkable level of economic development in the PRD region.

Shenzhen, one of the four special economic zones (SEZs) designated in 1980, was just a sparse and underdeveloped border town before the implementation of the Open Door Policy, with a GDP of RMB19 638 in 1979 (Ng, 2003). It has an area of 1,952.84 square kilometers with a population of about 5.57 million consisting of 1.5 million permanent residents and 4.1 million temporary residents in 2003. Since SEZs have been given greater flexibility in political and economic measures than other jurisdictions in Mainland China, the economic development in Shenzhen has been extremely successful. In 2003, the GDP of Shenzhen was RMB 289 billion which was increased by 19.2 percent over 2002 (Shenzhen Statistics Bureau, 2004). Investment from Hong Kong has been a particularly important factor for the dramatic economic growth in Shenzhen. According to Shenzhen statistical yearbooks, Hong Kong has been the main source of foreign investment in Shenzhen. In this stage, a 'Front Shop, Back Factory' spatial division of labor has been formed. Hong Kong investors have acted as the 'Front Shop' for marketing as well as supplying machinery and materials, and conducting product design, whereas the PRD region, especially

Shenzhen has acted as the 'Back Factory' by providing land, labor, electricity and other basic facilities (Yeh, 2002).

It seems that the PRD region's economic development depends heavily on Hong Kong. Actually, these two regions are mutually supportive of each other. In our current era of economic globalization and China's accession to the World Trade Organization (WTO), China, especially the PRD region, is becoming increasingly important to Hong Kong's economic development. In addition to offer many opportunities for mainland cities and the rest of the world, the WTO entry has also widened the scope and expanded the possibilities for Hong Kong and the PRD region to cooperate across different sectors. For the sake of Hong Kong, China's entry into the WTO helped to promote Hong Kong's economic development, which was particularly important during the global economic slowdown. At present, China is the largest market for Hong Kong's re-exports and the second largest market for Hong Kong's domestic exports (Yeh, 2002). Thus, there is a need for further cooperation, integration and coordination to allow each region to maximize its own comparative advantages to reach a win-win situation.

Many studies have been undertaken to analyze the cooperation between Hong Kong and the PRD region. Fung (2002) found that Hong Kong and the PRD region are not just two economic areas but one economic region with a holistic vision of its future that will require intense cooperation between officials and administrations at different levels to elevate the competitiveness of the entire region. Cheung (2002) reviewed many governmental documents that highlight the importance of cooperation between Hong Kong and the PRD region,

including a Commission on Strategic Development (CSD) report released in February 2000 and the fourth and fifth Chief Executive's Policy Address. Lee et al. (2002) explored specific scenarios of cooperation and coordination to allow all concerned parties to figure out how to make the scenarios happen. Many such studies have already addressed the importance of cooperation. However, few studies have been conducted on the issue of complex administrative systems and jurisdictions between the two regions.

The Governance of the GPRD region

Within the GPRD region, there are multiple administrative system settings: the provincial capital of Guangzhou, two SARs (Hong Kong and Macau), two SEZs (Shenzhen and Zhuhai), six prefecture-level cities, nine county-level cities, and two counties (Figure 2.1). Due to the 'One Country, Two Systems' arrangement, there is no one government (except for the Central People's Government) that has the supreme authority to manage and plan for Hong Kong and Macau (Project 2022, 2001). In addition, Guangzhou and Shenzhen enjoy some administrative power and rights as Guangdong Province. This is one of the most complicated administrative systems in the world, which in turn produces completely different political economies under the 'One Country, Two Systems' framework (Table 2.1).

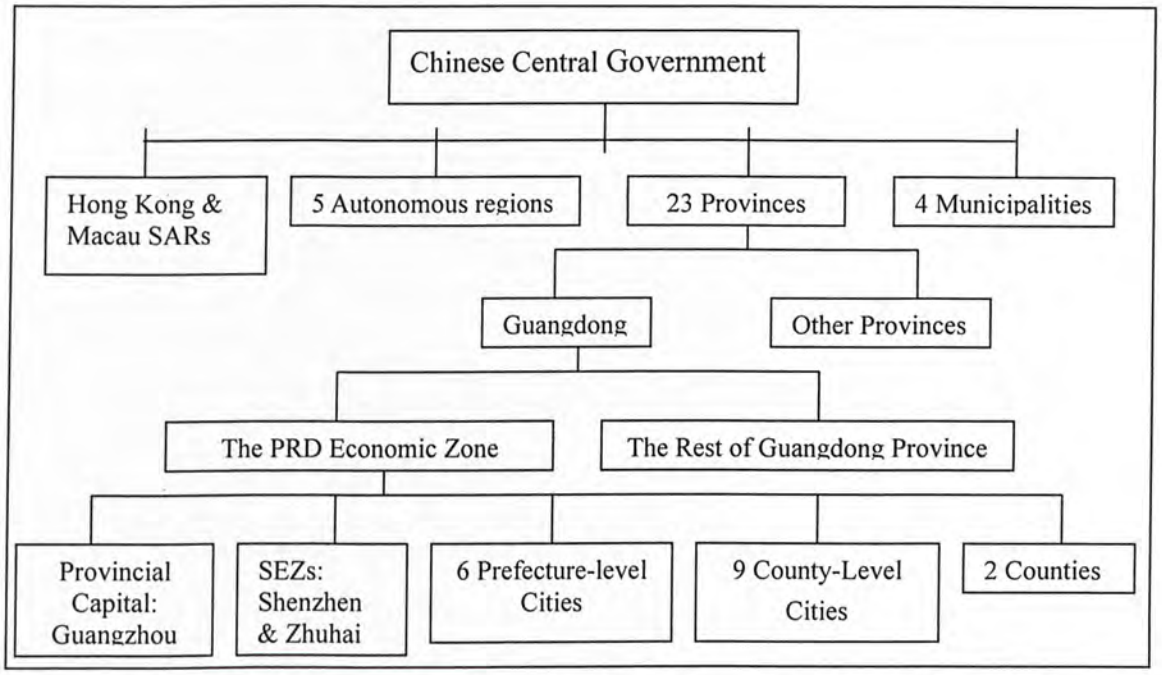

Figure 2.1 "One Environment, Multiple Systems" in the Hong Kong-PRD Region

Source: Based on Ng (2002) with revision.

Table 2.1 Political economies under the 'One Country, Two Systems' policy

Reforming Socialist Market Economy In Mainland China	**Capitalist System in Hong Kong SAR**
✧ State-dominated polity under the strong control of the Communist Party	✧ Market-led economy with well established market rules and regulations
✧ Civil Society hardly exists	✧ Economic restructuring
✧ Centrally planned economy introduces market mechanisms at local levels	✧ Executive Government-led polity
✧ Increasing foreign investments	✧ Government: "Maximum support for and minimum intervention in the economy"
✧ Most enterprises are intervened one way or another by governments at different geographical levels	✧ Democratizing Civil Society
	✧ Facing the new challenge of working with higher level governments in the mainland

Source: Based on Ng (2002) with revision.

In the pass two decades, there have been a number of interactions between Hong Kong and the PRD region. However, above complex administrative systems hinder the cooperation in business, government administration and infrastructure. Moreover, gaps between the expectations and interests of the region's various governments have been the most important factor hindering further cooperation (Cheung, 2002). The governments in Hong Kong and the PRD region have different perceptions on the relationship between Hong Kong and the PRD region. Local governments in the PRD region consider the Hong Kong SAR to be a city in the PRD region and expect to include Hong Kong in regional social and economic plans. Some government officials disagree about whether or not to consider Hong Kong a part of the PRD region. This has blocked initiatives to increase cooperation between the two regions (Yeh, 2002). In addition, Cheung (2002) mentioned that the slack response from the Hong Kong government to suggestions from Guangdong (or Shenzhen) authorities favoring much more government initiative also hinders the development of closer cooperation between the two regions.

2.2 Internal Factors

2.2.1 Overview of Two Airports

Hong Kong Chek Lap Kok International Airport (HKIA) was inaugurated on 6 July, 1998 and was the twentieth century's largest civil aviation project. With its advantages of geographical location and the construction of the new airport, Hong Kong is now firmly established as an international financial and commercial centre for the Asia Pacific region and serves as a gateway to China for investment, trade and tourism (Weisel, 1997). HKIA is the main international and Asian aviation center of the world. It is one of the world's busiest airports in terms of international passengers and cargo. HKIA currently offers services for 74 airlines to 139 destinations and serves as a hub for both Cathay Pacific Airways and Dragonair. In 2003, it handled 27.43 million passengers and 2.64 million tonnes of cargo respectively. Moreover, HKIA was also selected as the World's Best Airport for the fourth consecutive year in the largest independent survey of air passengers, conducted by Skytrax Research of the UK in 2004. HKIA's ultimate capacity is anticipated to handle 87 million passengers and nine million tonnes of cargo annually at full development.

Shenzhen Baoan International Airport (SBIA), which opened in October 1991, is the first modern international transportation hub in China to combine air, land and sea transportation. After only twelve years of development, SBIA has already succeeded in developing five international routes to South Asia and North America as well as 105 mainland routes. It currently offers over 80 flights to about 50 destinations every day, the majority of which are within China. China Southern Airlines and Shenzhen Airlines are the home carriers of the Shenzhen airport. In 2003, the Shenzhen airport handled 10.84 million

passengers and 353.6 thousand tonnes of freight and mail, increased by 15.9 percent and 22.5 percent respectively from the previous year (SSB, 2004). In comparison with other mainland airports, SBIA was ranked fourth in terms of passengers and cargo handled among 126 civil airports in China.

2.2.2 Governance of Airports

Under the 'One Country, Two Systems' framework, the Hong Kong and Shenzhen airports are governed by different government authorities. HKIA is managed by an Airport Authority, which is a public corporation managed along commercial lines independently (Loh, 2002), whereas the Shenzhen airport is managed initially by the Central Government and recently by City Government. Under Section 4 (Civil Aviation) of the Basic Law, the Hong Kong government has the full power to govern its own civil aviation. This provides Hong Kong and Mainland China with the right to negotiate new air service agreements separately. However, Oum and Yu (2000) mentioned that Mainland China can still indirectly control Hong Kong's airline industry through the China National Aviation Corp (CNAC) and CITIC Pacific, which owns some shares of Dragonair and Cathay Pacific (Figure 2.2). Furthermore, the Central Government can use any of four airports in close proximity to Hong Kong to influence the status of HKIA and its air transportation policies. Hence, Oum and Yu believed that Hong Kong's status as an air traffic hub will be significantly influenced by its relations with Mainland China.

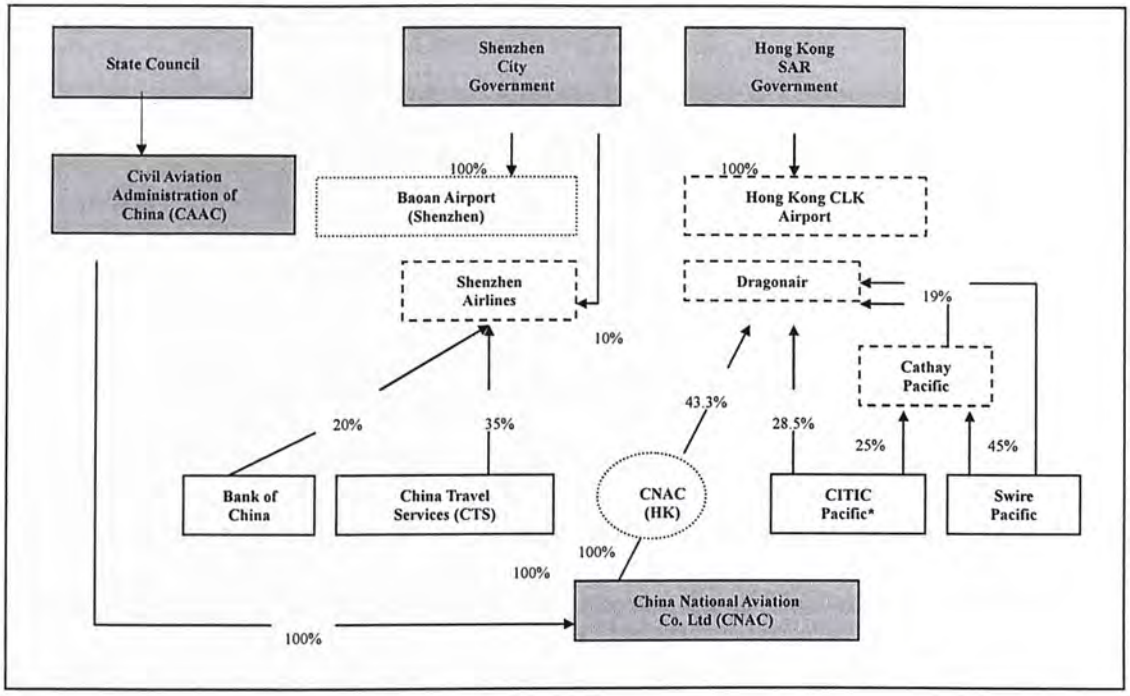

Figure 2.2 Ownership relations among governments, home airlines, and airports in Hong Kong and Shenzhen.
Source: Based on Wang & Ho (2002).
Note: CITIC Pacific is regarded as an arm of the State Council to hold the share of Cathay Pacific.

Mainland airports were operated by the Civil Aviation Administration of China (CAAC) (later renamed as General Administration of Civil Aviation of China) before the second stage of Chinese airline reform. Prior to 1980, the CAAC had a dual role as both civil aviation administrator and operator of airports and airlines. It was considered to be a governmental agency to carry out national policies, not to operate as an economic entity. There was a four-level 'chain of command' administration system within the CAAC: the CAAC itself, six regional civil aviation bureaus, 23 provincial civil aviation bureaus, and 78 civil aviation stations (Jin et al, 2004, Zhang, 1998 and Zhang, 2003). The monopoly role of the CAAC regulated every aspect of air services including market entry, route entry, frequency, pricing and even passenger eligibility for air

travel. Under this situation, Chinese airports almost entirely depended on CAAC subsidies, which was different from airports elsewhere whose major sources of revenue were landing and ground handling charges and duty-free shops (Cheung, 1988).

Due to the unsatisfactory performance of civil aviation under this old system, the Chinese aviation reform was started in the late 1970s. Through this reform, airport operations were separated from airline operations, and 'airport decentralization' policy was established. Moreover, the CCAC was no longer the operator of air transportation and it currently focuses on designing mechanisms to fulfill its regulatory function of the market (Oum and Yu, 2002). In recent years, many mainland airports have been gradually decentralized and are now managed and supervised by local governments, including three of the five principal airports within 50 kilometers radius of the GPRD region: Baiyun airport in Guangzhou, Baoan airport in Shenzhen and Zhuhai airport. In addition, Hong Kong and Macau have their own international airports. However, the fact that each local government is looking after its own airports' interests has caused a disastrous duplication of resources and waste of capital as all five airports are capable of handling international flights (Chan, 2002; Hamer, 1997; Yeh, 2002).

Much work has been published on the issue of these five airports in the GPRD region, where complex jurisdictions exist (Shen, 2002; Enright et al, 2003; Loh, 2002; Wang and Ho, 2002; Chan, 2002; Xu and Xu, 2002). Shen and Loh criticized the wastage of resources in building too many airports in the region, and Shen (2002) suggested that it may be more economical to use the region's limited capital to build rapid transit systems to connect the few major aviation

centers such as Guangzhou and Shenzhen with other cities. This redundancy in air-traffic capacities reflects the poor coordination in planning and implementation of transport infrastructure development strategies among the five cities (Chan, 2002).

Wang and Ho (2002) conducted a comprehensive analysis of airport interplay with their major airline clients, focusing specifically on competition for the position as a regional hub in the PRD region containing multi-level fragmented jurisdictions. This study provides insight on how airports, governments and airlines can create a win-win situation for all. According to Enright et al (2003), competition already existed between the Hong Kong, Guangzhou and Shenzhen airports. The authors mentioned that SBIA is already having an effect on air passenger flow through Hong Kong, both in terms of mainland passengers who use Hong Kong via SBIA to connect to international destinations, and in terms of Hong Kong citizens who travel to and from other Mainland cities via SBIA. They pinpointed the importance of SBIA in affecting the total revenue of HKIA but offered little explanation. Hence, there is a room for further studies on the relationship between two airports.

Similar studies have been undertaken to analyze the planning of regional airports in other countries. Humphreys and Graham (2002) examined the policy issues for UK regional airports within air transport systems by studying airport-airline relationships. They emphasized the important role of airline industries, as airlines are the major clients for the airports. Furthermore, they used a case about the Birmingham and East Midlands Airports to illustrate that the socio-economic composition of population and their travel needs are the

crucial elements in determining the strength of the market. Feldhoff (2002) provided an insightful discussion of the relationship networks connecting politicians, ministerial bureaucrats and businessmen in interpreting the planning of regional airports in Japan. Both studies pointed out the importance of stakeholders and the politico-economic context in ensuring the achievement of desired public policy outcomes.

2.2.3 Airport-Airline-Passenger Interplay

As transport terminals, airports are different from other transport terminals. Airports' direct clients are airlines, not passengers (Wang and Ho, 2002). Hence, a vast body of scholarly literature about airport-airline interplay has emerged. Pels et al. (2000) analyzed optimal airfares, frequencies and passenger charges in a region containing multiple airports by using a nested logit demand model. They found that passenger airport choices are based on flight characteristics, such as airfares and frequencies, and also on airport characteristics, such as access time and passenger charge. In addition, both airport access time and flight frequencies had coefficients generally higher for business passengers than for non-business passengers (Windle and Dresner, 1995). Caves (1997) also examined airlines' attraction to passenger, but focused on various European airline networks, including those based on gateway, hinterland and by-pass hubs, as well as on direct point-to-point services. The latter finding has drawn much attention to the competition among the airlines.

Carney and Mew (2003) mentioned that competition among airlines encourages them to differentiate themselves from the others. As differentiation increases, airlines seek variation in service levels. Full-service airlines aim to

maximize connections and the range of service levels that they provide to their passengers, whereas low-cost airlines aim to maximize the number of turnarounds and services that assist their high-equipment utilization strategies. Moreover, they found that in competitive markets, most airlines seek to improve their service rather than price competition. They may try to increase the frequency of existing routes or operate new routes with direct point-to-point service. However, Barrett (2004) had different point of views. He pointed out that the competition between low-cost and full-service airlines within one airport could not be avoided. This is just like the pressure faced by the operators of high-cost airlines in the past.

Some studies have already been carried out to analyze airport performances from different perspectives (Forsyth, 2000; Sarkis, 2000; Starkie, 2001). Forsyth (2000) examined the changing focus of modeling work of airport performances from congestion-pricing models to models of costs and efficiency. Sarkis (2000) analyzed airport operational efficiency, while Starkie (2001) examined the supply of airport services in the imperfectly competitive market. Indeed, most studies focus on economic and performance analyses of the airports. Few studies examined the issue of airport-airline interplay in institutional and administrative dimensions (Carney & Mew, 2003; Wang & Ho, 2002). Loh (2002) and Oum & Yu (2000) documented the major home carriers of China and Hong Kong without further analyzing their relationship to their respective airports and passengers. The consensus of these two studies is that the liberalization of China air transport network should be encouraged, in order to enhance aviation development in China.

In addition to airports and airlines, passengers also play an important role in the aviation industry. Chang & Yeh (2002) mentioned that only the customers could truly define service quality in the passenger airline industry. They reviewed various schemes for defining service quality dimensions, including the relationships between service quality and airline choice, customer satisfaction, customer loyalty, passenger type, airline type and aircraft type, etc. Moreover, they pointed out that service quality attributes are context-based and that the definition of service quality varies between different types of passengers. For instance, Gilber & Wong (2003) examined passengers' expectations of airline service quality in Hong Kong among passengers of different ethnic groups and with different purposes of travel. They concluded that there are significant differences in service expectations among different types of passengers. However, most of the studies have examined the service quality of airlines and passengers' expectations, but none of the studies analyze the governance of airports from passengers' perspectives.

2.3 Research Framework and Methodology

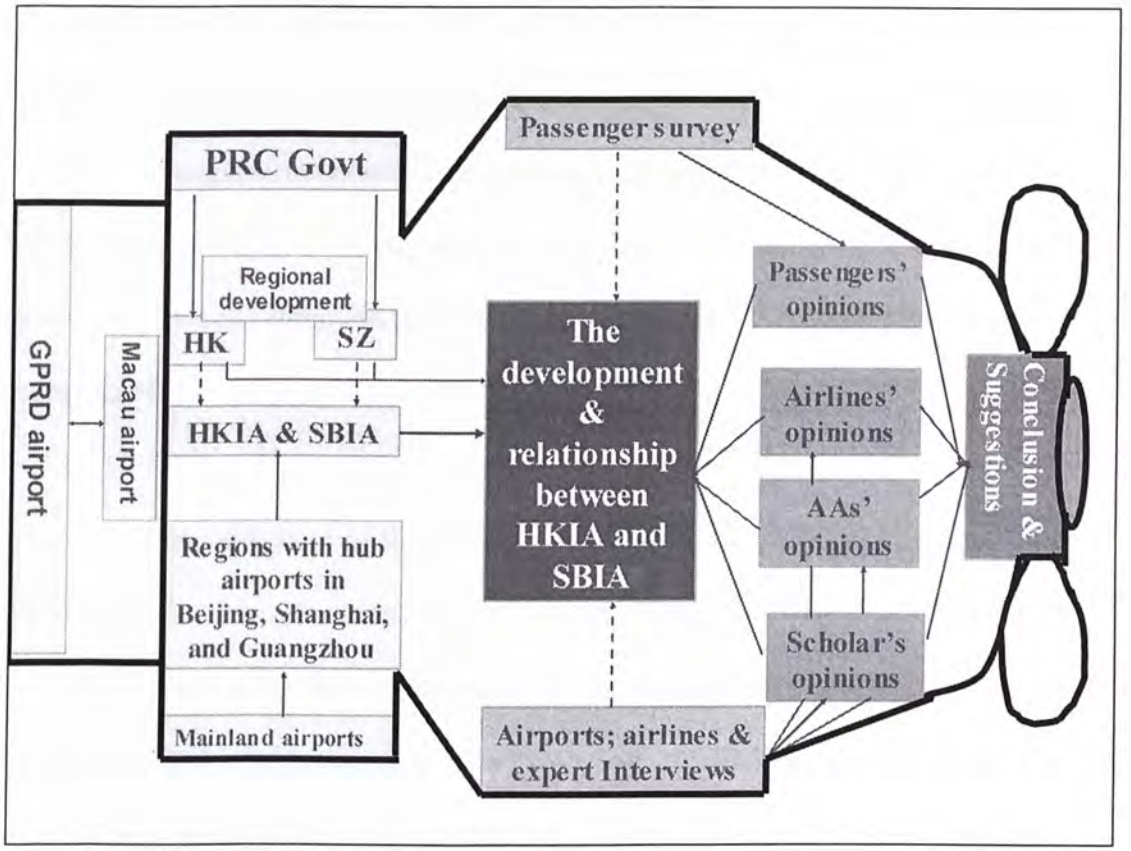

Figure 2.3 Research framework
Note: HK: Hong Kong; SZ: Shenzhen; PRC: People's Republic of China; AA: Airport Authority.

The purpose of this study was to analyze the relationship between HKIA and SBIA under two jurisdictions and find out whether closer cooperation could develop in these two airports in the context of regional integration. An airport provides both passenger and cargo services. This research focuses on the relationship between HKIA and SBIA in terms of passenger services. Different sets of stakeholders are involved in cargo services that will be an interesting topic in further research.

The review of previous studies shows that there are close relationships among airports, passengers and airlines. The thesis first examines the regional

cooperation and competition in the GPRD region, especially those related to airports. The development of the mainland airports in the context of the global aviation market is analyzed. The three main airport hubs in mainland including Beijing, Shanghai/Hangzhou and Guangzhou/Shenzhen were examined. The relationship among the five international airports in the GPRD region was reviewed. The development and relationship between HKIA and SBIA are then considered.

In the second stage of the research, in order to have a better understanding of the development and relationship between HKIA and SBIA, information is collected from a variety of sources by conducting questionnaire survey of passengers and a wide range of interviews with representatives of airlines that operating in Hong Kong or Shenzhen, the airport authorities of Hong Kong and Shenzhen as well as a scholar who mainly focus on the airport development issues. Detailed first-hand data are then analyzed and interpreted regarding the strength and weakness of HKIA and SBIA, the main factors in the choice of airports, and the relationship between the two airports. Interviews with representatives of airlines, the airport authorities as well as the scholar provides further information and views from various perspectives. Finally, some recommendations are proposed on the further development and the relationship between HKIA and SBIA.

In this study, both quantitative and qualitative approaches will be used. The data will draw from diverse sources. Primary data will be collected through an extensive questionnaire survey of passengers who used the Hong Kong and/or Shenzhen airports and a number of interviews with the persons-in-charge of the

associated operators and government departments. Secondary data, on the other hand, will be acquired through a comprehensive document search such as statistical yearbooks, government documents and news.

Interviews have been carried out to collect different viewpoints of the major players on the relationship between Hong Kong and Shenzhen airports and to verify other information that collected from the secondary sources. The planned interviewees include the persons-in-charge of Airport Authorities in both Hong Kong and Shenzhen, persons-in-charge of the home carriers including. Cathay Pacific and Dragonair in Hong Kong and China Southern Airlines and Shenzhen Airlines in Shenzhen and the government departments which involved in the PRD A5 Forum.

However, there are some limitations in these interviews. As some of the information requested is commercially sensitive, some companies declined my invitation for an interview. Some companies are unable to provide some data. Although there are a couple of problems, I still successfully interviewed Hong Kong Airport Authority (HKAA), Shenzhen Airport (Group) Co. Ltd, Hong Kong Dragon Airlines Limited and a scholar who mainly doing research on the airport development issues. All of them have shared some valuable opinions about the interaction between the Hong Kong and Shenzhen airports with me. Moreover, Cathay Pacific Airways also shared some data and information of its flights.

A questionnaire survey was designed to examine respondents' satisfaction with the criteria on two airports, and land or sea connections between the two

cities. In addition, it also examined how the respondents perceived the relationship between the Hong Kong and Shenzhen airports. It was planned to approach at least 600 respondents to ensure the capture of sufficient responses.

The questionnaire consisted of 76 questions and was divided into 5 parts (see Appendix I). The first part was the most common questions, which included the times of travel and rating for both airports according to various criteria. Respondents were asked to rate these criteria based on a scheme of 4-point scale according to the degree of significance. Such scaling technique was chosen due to its simplicity and without the neutral option. The second and third parts were only for those respondents who had used certain airport facilities to fill in.

In the second part, those who had used the land or sea transport to travel between the Hong Kong airport and the mainland cities were asked to rate how they perceived the land or sea connections on proposed criteria. In the third part, those who had used the Shenzhen airport were asked to rate on the land or sea connections between the Shenzhen airport and Hong Kong as well as other mainland cities.

The fourth part consisted of 11 questions. Those questions asked the respondents to express their opinions on the relationship between Hong Kong and Shenzhen airports in both close-ended and open-ended questions. The final part aimed at gathering the demographic information, such as place of residence, gender, age, occupation of the respondents and monthly income.

Before carried out intensive questionnaire survey, a pilot test was done.

The purpose of this pilot test was to test the feasibility of its operation. It was conducted at Hong Kong Hung Hom KCRC (Kowloon-Canton Railway Corporation) station from 15th March to 29th March in 2004. A total of 60 samples (one-tenth of the target respondent's amount) were drawn. Certain amendments were made to improve the questionnaire's wordings and design. Moreover, the difficulty to conduct a survey in Train terminus where people were in a rush, made me to conduct the survey in another place.

Since the questionnaire appears to be too long, it was difficult to conduct a survey in a place where people were in a rush. Survey place was then changed to the waiting lounge in Hong Kong China Ferry Terminal, and Shenzhen Fu Yong Ferry Terminal next to the Shenzhen airport. Most of the passengers, who were sitting there, had plenty of time for the survey. Moreover, most of them were familiar with the Hong Kong and Shenzhen airports. Those were the places where I can meet the target respondents easily. Because of the limit of time and human resources, convenience sampling was chosen. It is a form of non-probability sampling that I selected readily available respondents who just happened to be in the waiting lounges. As my approach was to obtain as many feedbacks from respondents as possible, convenience sampling provided an easy way for sample selection and data collection.

The questionnaire survey was conducted in the peak travel period – July and August in 2004. A total of 838 questionnaires were distributed and 725 were returned with an overall response rate of 86.5 percent. Statistical methods such as Chi-square testing are used in the data analysis to test the different evaluation on the two airports by passengers using SPSS (Statistical Package for the Social Sciences).

Chapter 3

DEVELOPMENT OF THE HONG KONG AND SHENZHEN AIRPORTS

3.1 Overview of China's Aviation Industry

The development of airports is crucial to a nation's development, especially in the age of globalization. Regardless of whether airports act as a catalyst or facilitator of economic development, a sizable airport can make a nation an ideal location for attracting foreign direct investment, promoting tourism, creating high-paying jobs, deepening the technological sophistication of national economies and instilling a sense of national pride. Hence, good air transportation is critical to the competitiveness of a nation.

Under the rule of Chairman Mao, the development of China's aviation industry was ignored until the late 1970s. During the close-door period, there were very few travelers in China and most of them traveled on political or business permits. There was only one airline. The airports and airspace were controlled by the military.

After 1979 when the economic reform was initiated by Deng Xiaoping, China began to develop its airports. The Civil Aviation Administration of China (CAAC) was able to run numerous airlines, to plan the number of civilian flights, and to approve the construction of new airports. Tremendous growth in China's aviation industry was recorded in the past two decades. For instance, China has invested US$12.2 billion to construct over 40 airports and upgraded or expanded

over 60 airports since the 1980s. By 2003, 126 civil airports were in operation and further 111 new provincial airports are planned by 2015. Moreover, there were as a total of 1155 civil aviation routes in China, which had increased at an annual rate of 12.6 percent since 1990.

According to General Administration of Civil Aviation of China (2004), China freight and mail traffic grew at an average annual rate of 11.89 percent in the period 1994-2003. It grew from 0.829 million tonnes in 1994 to 2.19 million tonnes in 2003 (Figure 3.1). This rapid growth in freight and mail traffic was mainly due to strong economic growth and rising foreign investment. It is predicted that China would become the second largest aviation market in the next two decades, just after the United States. Of the numerous city-pairs, 10 play a dominant role in the market, including Shanghai-Beijing, Shanghai-Guangzhou, Beijing-Guangzhou, Shenzhen-Shanghai, Shenzhen-Beijing, Hangzhou -Guangzhou, Chengdu-Guangzhou, Beijing-Chengdu, Shanghai-Chengdu and Kunming-Guangzhou. These 10 city-pairs accounted for approximately 44% of all domestic air cargo tonnage of the total, with the top eight physically located in a triangular corridor consisting of Beijing, Shanghai/Hangzhou, and Guangzhou/Shenzhen (Figure 3.2) (Boeing, 2003). Table 3.1 provides quantitative measures of the aviation traffic for these three regions. These measures include the passenger throughput, freight and mail throughput and the number of aircraft movements. The three regions contributed about 65.11 percent of the total freight and mail throughput in the country. The Shanghai/Hangzhou region consists of Shanghai Hongqiao airport, Shanghai Pudong airport as well as Hangzhou airport and ranks first in terms of the three measures. The rank of China in the transport volume of passengers in the world has gone up from 33rd

in 1978 to 6th in 2001 (Yin, 2001). The passenger throughput grew from 40.39 million in 1994 to 87.59 million in 2003 with an annual growth rate of 9.23 percent (Figure 3.1) (General Administration of Civil Aviation of China, 2004).

According to Boeing 2004 Current Market Overlook (Boeing, 2004), world economy will grow on average 3.0 percent per year and air travel will increase at 5.2 percent annually over the next 20 years. Comparing the estimation across various regions, it is expected that the air travel in China will grow faster than other regions. China's forecasted GDP growth rate of 5.5 percent per year will be the highest in the world and air travel for China's carriers is forecasted to expand at an average annual rate of 7.5 percent, led by the average annual growth of 8.1 percent in the domestic market. Comparably, North America and Europe will have a lower annual growth rate in air travel, which is 4.5 and 4.8 percent respectively through 2023.

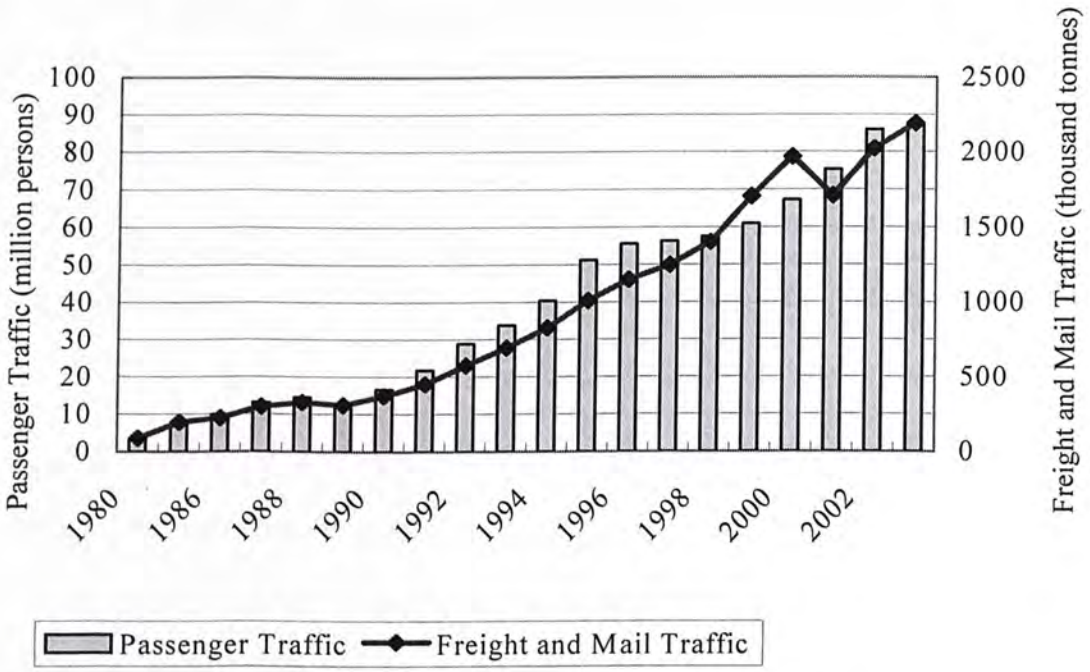

Figure 3.1 China air transport traffic from 1980 to 2003
Source: General Administration of Civil Aviation of China (2004).
Note: Started from 2001, international measurement method is used.

Figure 3.2 Top city pairs for domestic air cargo traffic

Source: Boeing, 2003.

Note: The numbers in the map refer to the ranking of domestic air cargo tonnage among the top 10 city-pairs in China.

Table 3.1 Air transport traffic data of the regions located in China's triangular corridor, 2003

Region	Share of national GDP (%)	Share of national passenger throughput (%)	Share of national freight and mail throughput (%)	Share of national aircraft movements (%)
Beijing	3.51	13.90	14.67	11.03
Shanghai/ Hangzhou	7.99	16.70	32.96	13.89
Guangzhou/ Shenzhen	6.09	14.83	17.48	12.36

Source: State Statistical Bureau (2004); General Administration of Civil Aviation of China (2004).

As the aviation market is mainly shared by the Pearl River Delta (PRD) region, Shanghai and Beijing, competition is growing among some regional airports. It is evident in the fast growing and most affluent region – the Greater Pearl River Delta (GPRD) region, where Hong Kong and Macau were part of it. Within an area of 42,824 square kilometers and a population of 48 million in the GPRD region, there are five international airports, namely Hong Kong

International Airport (HKIA), Guangzhou Baiyun International Airport (GBIA), Shenzhen Baoan International Airport (SBIA), Macau International Airport (MIA) and Zhuhai Airport (ZA); and two regional airports consisting of Foshan Airport as well as Huizhou Airport.

The details of the five international airports are show in Table 3.2. Figure 3.3 showed the passenger traffic of the five principal airports in the GPRD region from 1999 to 2003. It is obvious that there was a big different in passenger traffic among these five airports. HKIA had the highest passenger traffic in the past five years. Although the outbreak of Severe Acute Respiratory Syndrome (SARS) in 2003 contributed to a significant decrease in passenger traffic of HKIA, it was still about 1.8 times of that of GBIA. Following GBIA, SBIA ranked third and kept steady growth in passenger traffic. By contrast, the relative low passenger traffic of MIA and ZA persisted in the past five years.

Table 3.2 Profile of the five GPRD airports

Airport	HKIA	GBIA	SBIA	MIA	ZA
Commerce Date	July, 1998	August, 2004	October, 1991	December, 1995	June, 1995
Investment (HK$ billions)	49.8	19.5	n.a.	8.19	6.86
Passenger terminal area (square meters)	550 000	300 000	146 000	45 000	92 000
Annual passenger handling capacity (millions)	45	25	20	6	12
Annual cargo handling capacity (million tonnes)	3	1	0.3	0.16	0.6
Number of runways	2	2	1	2	2
Runway length (meters)	3 800	3 800	3 400	3 360	4 000
Number of aprons	96	59	49	16	51

Source: Updated from The Sun Newspaper (2004).

Note: Refer to new airports in Hong Kong and Guangzhou, which have old airports for many years.

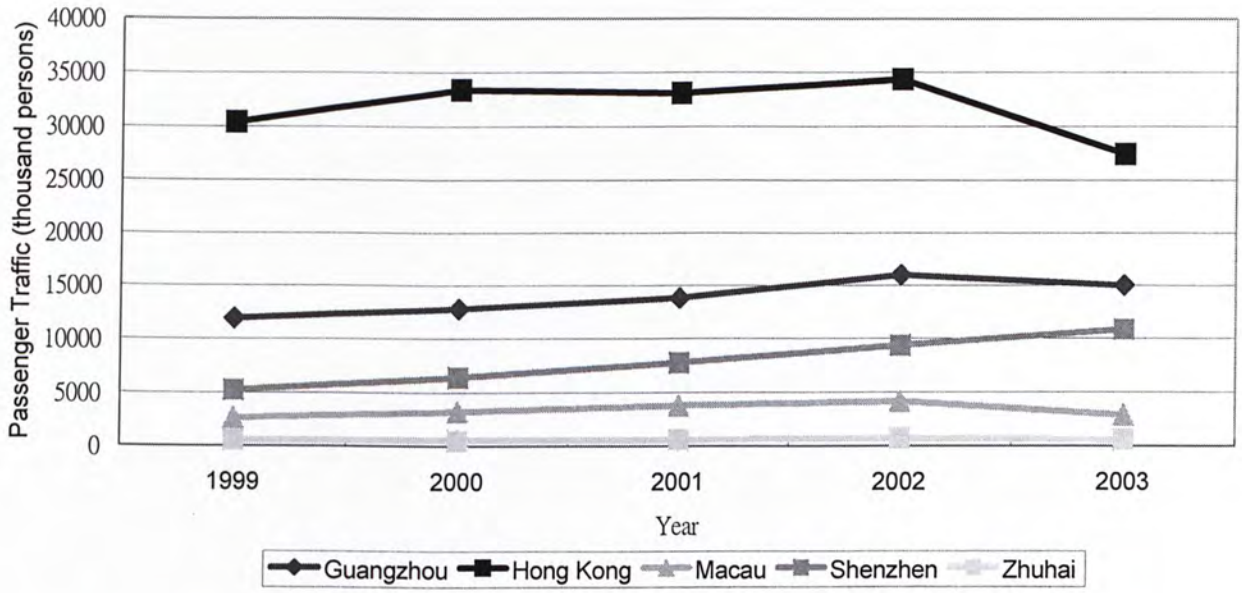

Figure 3.3 Passenger traffic of five principal airports in the GPRD region from 1999 to 2003

The relationship between the Hong Kong International Airport and the Shenzhen Baoan International Airport is the focus of this study. Following two sections will examine the development details of the two airports. A comprehensive comparison of the two airports would be followed.

3.2 The Development of the Hong Kong International Airport

Hong Kong's old airport, Kai Tak International Airport, was opened in 1928 and gained full international airport status in 1958. It served Hong Kong for 73 years. There was a dramatic growth in air traffic in the 1980s and 1990s. In 1987, Kai Tak handled over 10 million passengers and half a million tonnes of cargo. They further increased to over 24 million passengers and nearly one and a half million tonnes of cargo by 1995 (Anonymous, 1998). The old airport's maximum capacity was 28 flights an hour, but actual usage sometimes reached 36 flights an hour. It was clear that increasing volumes of passengers and cargo would exceed the airport's capacity, and a new one was needed.

By late 1989, the Hong Kong Government decided to carry out a number of projects, which were known as the Airport Core Program (ACP). The new airport is the central project within the 10-project program, which includes nine other projects: an airport railway, a Lantau link, a western harbor crossing, the North Lantau expressway, Route 3, the West Kowloon expressway, West Kowloon reclamation, Central reclamation (phase 1) and the Tung Chung new town (phase 1) (Figure 3.4). The overall budget for the whole ACP was HK$158.2 billion. The airport was allocated a budget of HK$70.7 billion including HK$49.8 billion for Provisional Airport Authority (PAA), HK$15.4 billion for franchises and HK$5.5 billion for facilities. The huge amount of investment was to ensure that the Hong Kong airport would be capable of meeting its aviation needs through to the year 2040, to stimulate economic development and financial success in the future Hong Kong (Hong Kong Airport Core Programme, 1998).

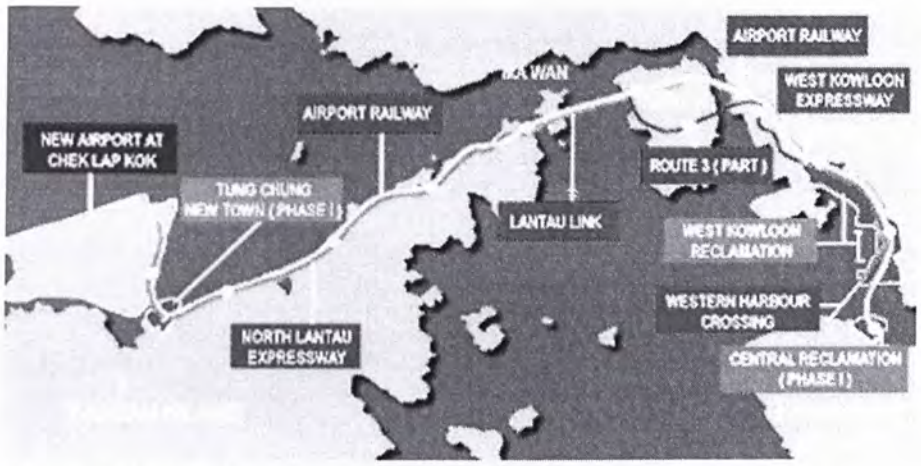

Figure 3.4 The plan of the Hong Kong Airport Core Programme
Source: Hong Kong Airport Core Programme, 1998.

After eight years of construction, a high-tech airport was built and opened in 1998. Hong Kong's new international airport at Chek Lap Kok is located on Lantau Island and covers 1,255 hectares, almost four times the size of the old airport at Kai Tak. Its location allows for 24 hours of utilization without the night-time flight restrictions, which were imposed at the old airport. The Chek Lap Kok International Airport is more advanced and has greater passenger and cargo capacity than the old one. It is currently able to handle 45 million passengers and 3 million tonnes of cargo per year and is ultimately anticipated to handle 87 million passengers and 9 million tonnes of cargo annually. The flight handling capacity of the new airport is 49 flights per hour (Dempsey, 2000). There are two runways, which are 3,800 meters in length and 60 meters wide, as well as 48 frontal gates, 27 field aprons for passenger aircraft and 21 for air cargo aircraft. It is also a major hub for aeronautical engineering and aircraft maintenance. Moreover, the HKIA also is the world's largest airline catering center capable of producing 80,000 meals a day (Airport Authority, 2001b).

The passenger terminal building (PTB) has over 550,000 square meters and

is the largest passenger terminal in the world. It is about nine times the size of the old Kai Tak terminal. Inside the Y-shaped terminal building, there are 70 moving walkways, 102 lifts, 68 escalators, 10,400 luggage trolleys and an Automated People Mover System that runs throughout the terminal, providing easy movement for passengers (Airport Authority, 1999). Moreover, arriving and departing passengers can easily reach Customs or Immigration as there is no need to change levels. There are a total of nine check-in islands with 288 desks in the departure hall for efficient check-in procedures. Luggage retrieval is aided by an automated baggage handling system (BHS) that is capable of processing 13,680 pieces an hour. It only takes about 10 minutes for arriving passengers to clear Immigration. In addition, there is a world-class retail and catering centre in the PTB, consisting of 160 retail outlets and 40 restaurants offering services for passengers (Airport Authority, 2001b). The new airport is a vast improvement over the old one (Table 3.3).

Table 3.3 Comparison of passenger terminal facilities between the new and old HKIA

Items	**New Airport**	**Old Airport**
Area (square meters)	550 000	66 000
Check-in counters	288	210
Immigration desks	216	170
Lounge-type seating	12 500	3 810
Retail outlets	200	40
Flight display boards	2000	283
Baggage reclaim units	12	6
Luggage trolleys	10 400	3 500

Source: Airport Authority (1999).

The ground transportation centre (GTC) is located adjacent to the passenger

terminal, linked to it by moving walkways. It covers an area of 55,000 square meters. The designated area houses the arrivals and departures platforms for the public bus terminus and taxi stands, as well as parking places for tour coaches. It also houses the Airport Station – the terminus for the rapid transit Airport Express Railway. The train services take 23 minutes from airport to Hong Kong Station in the central, at 10 minute intervals (Airport Authority, 2001b).

In addition, HKIA has emerged as a gateway to the Mainland China, in particular Southern China. It also serves as a major land transportation hub to major cities in the Pearl River Delta (PRD) region and beyond. Five companies, including China Travel Service, Eternal East, GogoBus, Chinalink and Golden Trip Express, provide as many as 200 regular coach services per day between the airport and 40 towns and cities in the PRD region, such as Guangzhou, Huizhou, Dongguan and Shenzhen. In 2003, these coaches carried a total of 1.1 million passengers (Airport Authority, 2003b).

In order to have better connections between Hong Kong and the PRD region, a SkyPier was opened on 29 September 2003. Passengers can easily travel between the airport and ports in the PRD region, bypassing normal Custom and Immigration formalities at HKIA. The passengers can board ferries at one of the six ports in the PRD region – Shekou and Fuyong in Shenzhen, Zhongshan, Guangzhou Lian Hua Shan, Macau and Humen in Dongguan to reach the HKIA with a journey time of about 30 minutes to 75 minutes (depending on the port the passengers board), and via the HKIA to 139 destinations worldwide. Therefore, the HKIA can truly be transformed into an inter-modal transportation hub combining air, sea and land transport (People's Daily, 2002; Airport Authority,

2002a; Information Services Department, 2003).

Cathay Pacific Airways Limited and Dragonair Airlines Limited are the flag carriers of HKIA, the former handled 10.1 million passengers and 0.87 million tonnes of freight, and the later handled 3.2 million passengers and 0.27 million tonnes of freight respectively in 2003. There are two air cargo terminal operators, Hong Kong Air Cargo Terminals Ltd (Hactl) and Asia Airfreight Terminal Company Limited (AAT), offering air cargo services are able to handle 2.6 million tonnes and 0.4 million tonnes of cargo per year respectively (Airport Authority, 2003a). In order to reinforce the status of Hong Kong as the gateway to China and a logistics management hub, the Marine Cargo Terminal (MCT) was opened in March 2001 to provide one-stop services linking the airport with 20 river ports in the PRD region. The terminal enhances the accessibility of the airport to its cargo hinterland that contributes 70 percent of the cargo exported from the airport (Airport Authority, 2001a).

HKIA is operated by the Airport Authority Hong Kong (AAHK) which is 100% owned by the Government of Hong Kong Special Administrative Region (HKSAR). The AAHK is responsible for the management and operation of the HKIA under an Aerodrome License issued by the Civil Aviation Department (CAD). Due to the outstanding performance of the airport, HKIA was voted the World's Best Airport for the fourth consecutive year in 2004, according to the largest independent survey conducted by Skytrax Research in the UK.

Hong Kong's geographical location allows it to be a global aviation hub as 50 percent of the world's population lives within five hours flying time. Hence,

Hong Kong has experienced robust growth in both passenger and cargo traffic. In the period of 1969-2003, the number of take-offs and landings grew at an average annual rate of 5.64 percent while the increase in the number of passengers averaged 9.73 percent per year (Table 3.4). The HKIA has led the world in terms of international air cargo throughput for many years and has ranked number one since 1996. It was also named Cargo Airport of the Year in 2003 by the UK's Air Cargo News for the second year. In 2003, air cargo throughput made a new record to reach 2.64 million tonnes (Figure 3.5). As a logistic center of the PRD region, 1.8 million tonnes of the PRD air cargo were handled at the Hong Kong airport, accounting for about 70 percent of Hong Kong air cargo total (Airport Authority, 2004). On the other hand, due to the outbreak of SARS, the passenger volumes dropped in 2003, which still exceeded 27.43 million (Figure 3.6). The HKIA now is the world's second busiest airport in terms of international passengers. There are, on average, approximately 598 non-scheduled passenger flights and 285 cargo flights each week providing services between Hong Kong and about 139 destinations throughout the world (Civil Aviation Department, 2003). In 2003, there was 15 million people travel to and from China via HKIA, who made up 60 percent of total passenger traffic at HKIA.

Table 3.4 Civil international air traffic of HKIA (April 1973 – March 2003)

	Aircraft			Passengers		
Period	Landings	Take-offs	%Change of total	Arrival	Departure	%Change of total
1973/74-1977/78	25 822	25 820	+16.4	2 395 258	2 142 157	+98.2
1978/79-1982/83	27 344	27 345	+5.9	3 525 901	3 728 567	+59.9
1983/94-1987/88	31 665	31 669	+15.8	5 216 013	5 349 326	+45.6
1988/89-1992/93	52 901	52 906	+67.1	9 252 700	9 446 067	+77.0
1993/94-1997/98	76 022	76 030	+43.7	13 515 748	13 657 151	+45.3
1998/99-2002/2003	92 955	92 956	+22.3	15 562 051	15 499 018	+14.3

Source: Civil Aviation Department (2003).

Note: Percentage change of total (Landings + Take-offs) from previous period

Percentage change of total (Arrival + Departure) from previous period

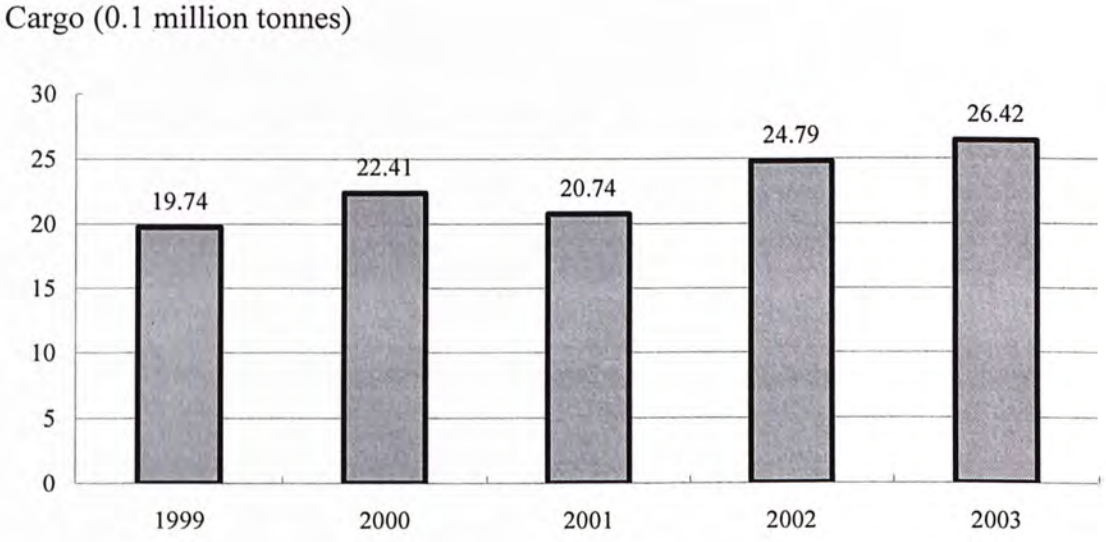

Figure 3.5 Total cargo throughput of HKIA from 1999 to 2003

Source: Airport Authority (2002b).

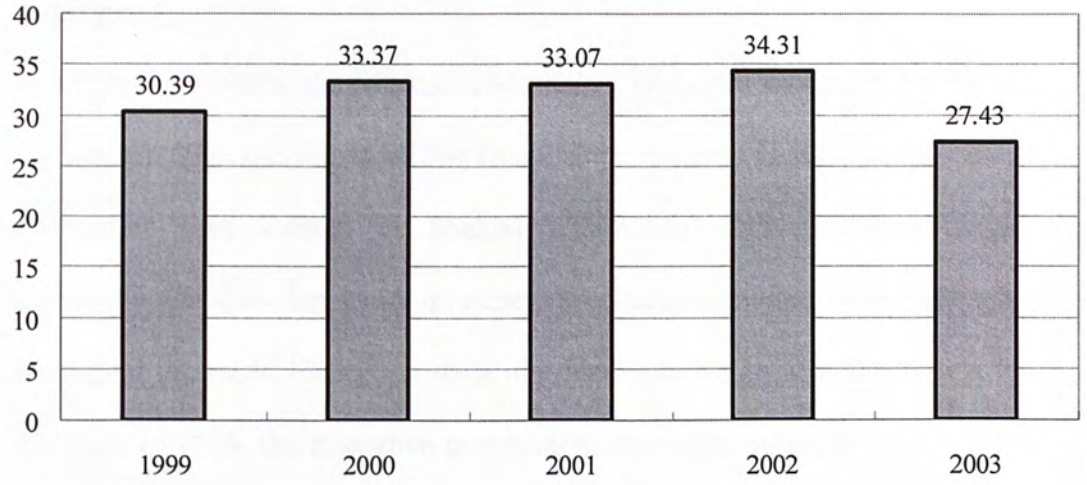

Figure 3.6 Total passenger throughput of HKIA from 1999 to 2003
Source: Airport Authority (2002b).

3.3 The Development of the Shenzhen Baoan International Airport

In the mid-1980s, the Shenzhen Municipal Government decided to build a local airport. The specialists of the Guangzhou Aviation Bureau proposed two construction sites located in Shekou region and Bijia Mountain region respectively. On the other hand, an American company invited by the Shenzhen government proposed Huangtian to be the ideal site for an airport. After a few flight tests in 1988, the Shenzhen government chose Huangtian to be the site of the new airport. The original name of the Shenzhen airport is Shenzhen Huangtian International Airport. However, due to the sinister association of the word "Huangtian", it was renamed as Shenzhen Baoan International Airport later.

The Shenzhen Baoan International Airport (SBIA) is located on the east bank of the PRD region, which is between the airports of Hong Kong and Guangzhou. It is the first modern international air traffic hub in China that combines air, land and sea transportation with round-the-clock operations. Its construction started in May 1989. The airport opened for operation in October 1991 and has enjoyed substantial growth year by year (Hong Kong Shippers' Council, 2000). After the expansion project carried out in 2000, the airport now covers an area of 11 square kilometers and has two large passenger terminals, a cargo terminal, an advanced air traffic navigation system, and fuel and express mail facilities (Dempsey, 2000).

The Shenzhen Baoan International Airport is owned by the Shenzhen Municipal Government and is operated by Shenzhen Airport Company Limited, which is a large state-owned enterprise. It has a 3,400 meters runway with 45

meters in width to accommodate maximum 25 movements of aircraft per hour. It is planned to construct a second runway at a later stage. There is an aircraft apron of 588,000 square meters. The cargo aircraft apron occupies 290,000 square meters with 57 aircraft stands (Hong Kong Shippers' Council, 2000). Among 126 China's civil airports, Shenzhen airport now is the fourth biggest international cargo pivot recognized by CAAC. It will ultimately be able to handle 20 million passengers and 3 million tonnes of air cargo per year.

There are about 20 carriers providing 99 scheduled flights in SBIA consisting of one international passenger flight route, 83 mainland passenger flight routes, five mainland air cargo flight routes, nine international air cargo flight routes and one Macau Helicopter flight route. They serve about 83 cities consisting of 73 mainland cities and ten international cities. China Southern (Group) Shenzhen Branch and Shenzhen Airlines are the two home carriers. The former handled 1.91 million passengers and 0.41 million tonnes of cargo, and the later handled 3.50 million passengers respectively in 2003 (Shenzhen Yearbook Editorial Committee, 2004).

There are two passenger terminals in the Shenzhen airport. The overall area of these two terminals is 146,000 square meters, of which 55,550 square meters is public and 20,500 square meters is commercial. It is able to handle up to 3,660 check-in passengers per hour and 7,200 passengers in the waiting lounge. The boarding service accommodates a maximum of 50 movements per hour (Hong Kong Shippers' Council, 2000). SBIA also provides convenient transportation for arriving and departing passengers. The airport is well linked to Hong Kong and nearby cities by sea and land transport with frequent services per day. Moreover,

the proposed Shenzhen Metro will help to improve transport and increase the accessibility of the airport.

The Shenzhen Airport (Group) Company Air Cargo Terminal was opened in August 1995, covering an area of 21,000 square meters, which is the most advanced computerized integrated cargo terminal in China. There are two air cargo companies operating in it, including Shenzhen Airport Aircargo Company Limited and Shenzhen Airport ATE International Freight Company Limited. Moreover, the Shenzhen Air Logistic Park is planned to be built to provide integrated and efficient services in the Shenzhen airport (Shenzhen Baoan International airport, 2004). It is located within the premises of the Shenzhen airport with an area of 116 hectares. It has four functional zones consisting of air cargo center, bonded trading warehouse area, port-based industrial and trading park, and sea freight center. These fourth party logistics service centers could provide flexible and prudent service by taking the full advantage of the hardware, software and service platforms. After the completion of the Shenzhen Air Logistic Park, the ultimate cargo capacity will reach seven million tonnes per year.

As mentioned earlier, SBIA was ranked the fourth top airport in China with excellent performances in both passengers and cargo throughput. In the period from 1993 to 2003, air cargo throughput grew at an annual average rate of 23.6 percent (Table 3.5), while passenger throughput grew at 13.5 percent (Table 3.6). The growth in the 1990s was particularly outstanding. In 2003, it handled 10.8 million passengers and 353.6 thousand tonnes of cargo, an increase of 14.9 percent and 22.5 percent over 2002 respectively. Although there was an outbreak

of SARS in 2003, it still had double digits growth. SBIA was among the top airports in the country, along with airports in Beijing, Shanghai and Guangzhou (Table 3.7). It is also the first Mainland regional airport serving more than 10 million passengers a year (Commercial Aviation Today, 2003).

Table 3.5 Air cargo throughput of SBIA from 1993 to 2003

Year	Cargo (thousand tonnes)	Growth over previous year (%)
1993	43	---
1994	62	44.2
1995	79	27.4
1996	90	13.9
1997	99	10.0
1998	115	16.2
1999	155	34.8
2000	203	31.0
2001	212	4.4
2002	289	36.3
2003	354	22.5

Source: China Transportation and Communications Editorial Committee (2003).

Table 3.6 Passenger throughput of SBIA from 1993 to 2003

Year	Passengers (million)	Growth over previous year (%)
1993	2.5	---
1994	3.1	24.0
1995	4.1	32.3
1996	4.3	4.9
1997	4.4	2.3
1998	5.1	15.9
1999	5.2	2.0
2000	6.4	23.1
2001	7.8	21.9
2002	9.4	20.5
2003	10.8	14.9

Source: China Transportation and Communications Editorial Committee (2003).

Table 3.7 Mainland airport ranks by passengers and freights handed in 2003

	Passenger Throughput (million persons)		Freight and Mail Throughput (thousand tonnes)	
Airport	Rank	Number	Rank	Amount
Total		174.32		4 517.44
Beijing	1	24.28	2	662.74
Shanghai - Pudong	2	15.06	1	1 189.3
Guangzhou	3	15.01	3	453.74
Shenzhen	4	10.84	4	353.6
Shanghai	5	9.69	5	208.52
Chengdu	6	8.2	6	177.31
Kunming	7	7.43	7	136.9
Haikou	8	6.03	15	56.97
Xian	9	4.4	14	62.86
Hangzhou	10	4.35	9	91.32
	...	...	...	...
Zhuhai	43	0.59	41	7.54

Source: General Administration of Civil Aviation of China (2004).

3.4 Comparison of the Hong Kong and Shenzhen Airports

This section is intended to compare HKIA and SBIA in various aspects including their general and financial conditions as well as the performance of their home carriers. A comprehensive comparison would greatly enhance the understanding of the two airports.

3.4.1 General Conditions of HKIA and SBIA

The Shenzhen airport is the fourth largest among the mainland airports in terms of passenger and cargo traffic. However, its facilities and performances are still lag behind the Hong Kong airport (Table 3.8). For instance, the Shenzhen airport only possess one runway and is able to handle 20 million passengers and 0.7 million tonnes of cargo ultimately per year, while the Hong Kong airport has two runways and is ultimately able to handle 87 million passengers and 9 million tonnes of cargo annually. In 2003, HKIA handled 2.64 million tonnes of cargo and 27.43 million passengers. On the other hand, SBIA only handled 0.35 million tonnes of cargo and 10.84 million passengers, which only accounted for 13.26 percent and 39.52 percent of the Hong Kong figures respectively. According to Worldwide Airport Traffic Statistics 2003 of the Airports Council International (ACI) (2004a; 2004b)–, HKIA ranked number two in freight traffic and 24th in passenger traffic, while SBIA ranked 46th and 96th in terms of freight traffic and passenger traffic in the world.

In addition, the facilities of HKIA including the total area of the passenger terminal, number of check-in desks and car parking places are better than those of SBIA. Despite fewer airlines and cities served by SBIA, it still endows with strength in Mainland market. It now covers 73 mainland cities, 31 cities more

than HKIA. Although the facilities and performances of SBIA are not as advanced as HKIA, it still has its comparative advantages. Hence, if both airports can cooperate to enlarge the market, a win-win situation will be created (Refer to Chapter 5 for further discussion).

Table 3.8 General conditions of HKIA and SBIA

Items	HKIA	SBIA
Official name	Hong Kong International Airport	Shenzhen Baoan International Airport
Location	Lantau Island	East bank of the PRD Region
Airport opening	July 1998	October 1991
Total airport site area	12.55 sq. kilometers	11 sq. kilometers
Annual passenger carrying capacity (millions)	45 (ultimate capacity: 87)	20
Annual cargo carrying capacity (million tonnes)	3 (ultimate capacity: 9)	0.3 (ultimate capacity: 0.7)
Air cargo throughput in 2003 (million tonnes)	2.64	0.35
Passenger throughput in 2003 (millions)	27.43	10.84
ACI Freight traffic ranking in 2003	2	46
ACI Passenger traffic ranking in 2003	24	96
Runways	2	1
Runway length (meters)	3 800	3 400
Aircraft gates	Frontal 48, Apron 27, Air cargo 21	Apron 57, Air cargo 24
Operation	24 hours, all year	24 hours, all year
Passenger terminal: area (square meters)	550 000	146 000
Check-in desks	288	90
Car parking places	3 300	2 000
No. of airlines	71	20
No. of cities served	140 (42 mainland cities)	83 (73 mainland cities)

Source: Interviews conducted by the author.

3.4.2 Financial Conditions of HKIA and SBIA

The outbreak of SARS in the second quarter of 2003 posted a very serious impact on the aviation industry of Asia-Pacific region, especially on the severely affected regions such as Mainland China, Hong Kong and Taiwan. In Hong Kong,

the peak of the outbreak in May 2003 caused the passenger traffic volume down by 80 percent. Table 3.9 showed the financial condition of HKIA and SBIA in 2003. They covered three key items including airport's turnover, profit from ordinary activities after taxation and total assets less current liabilities.

The turnover of HKIA amounted to HK$5,039 million as compared to HK$ 5,417 million for 2002, representing a decrease of 6.98 percent. The profit recorded a significant decrease of 22.66 percent, at HK$488 million compared to HK$631 million in 2002. For SBIA, it contributed an aggregated profit of HK$371 million, represents a 12.86 percent increase as compared with 2002. Turnover at HK$3,008 million represented an increase of 13.88 percent compared to the previous year. The negative growth rate of HKIA was mainly due to the worldwide public announcement that alerted people not go to SARS-affected regions during the outbreak period. As most of the passengers of HKIA were international travelers and businessmen, this resulted in lower passenger traffic for that period of time. On the other hand, SARS exerted relatively fewer negative effects on SBIA than HKIA. It still had double digits growth in both turnover and profit in 2003. Besides, HKIA's total asset of nearly HK$49 billion was almost 10 times the total asset of SBIA, about HK$5 billion.

Table 3.9 Financial condition of HKIA and SBIA in 2003

Items	HKIA		SBIA	
	Amount (HK$ millions)	Growth rate (%)	Amount (HK$ millions)	Growth rate (%)
Turnover	5 039	-6.98	3 008	13.88
Profit from ordinary activities after taxation	488	-22.66	371	12.86
Total assets less current liabilities	48 978	8.94	5 734	5.17

Source: Airport Authority, 2004, Interviews conducted by the author.

3.4.3 The Performance of the Home Carriers of HKIA and SBIA

In the airline industry, there were two home carriers in Hong Kong, namely Cathay Pacific Airways and Hong Kong Dragon Airlines Limited (Dragonair). Cathay Pacific Airways is the largest airline in Hong Kong. Dragonair is a niche carrier focusing on China routes and certain destinations in Asia. On the other hand, the home carriers of Shenzhen consist of China Southern (Group) Shenzhen Branch and Shenzhen Airline Company Limited. China Southern (Group) Shenzhen Branch is a wholly owned subsidiary of China Southern Airlines Company Limited. Shenzhen airline is a relatively small local airline mainly providing mainland flight services. Table 3.9 summarized the detail information of the four home carriers. As the data of China Southern (Group) Shenzhen Branch was limited, the data of its parent company – China Southern Airlines Company Limited were used.

Table 3.10 Profile of the four home carriers (2003 Unless Otherwise Designated)

Items	HKIA		SBIA	
Name of the home carrier	**Cathay Pacific**	**Dragonair**	**China Southern Airlines**	**Shenzhen Airlines**
Airline opening	1946	1985	1992	1993
Number of routes	n.a.	n.a.	334	80+ (2004)
Number of destinations	85+	31	94	n.a.
Number of aircraft	85	26	132	24
Number of employees	14 600	2 621 (2004)	17 569	3 400 (2004)
Total passenger carried (millions)	10.06	3.21	20.47	3.50
Total cargo carried (million tonnes)	0.87	0.27	0.46	n.a.
Profit (HK$ millions)	1 303	71	427	n.a.
Turnover (HK$ millions)	29 578	5 868	17 470	330

Source: Cathay Pacific (2004), Dragonair (2004), China Southern Airlines (2004), Shenzhen Airlines (2004).

Cathay Pacific Airways is an international airline providing passenger and cargo services to more than 85 destinations in the world. It was founded in 1946 and dedicated to Hong Kong airline industry for above 50 years. In 2003, 10.06 million passengers and 0.87 million tonnes of freight were carried. It was named the "World's Best Airline", "Best Airline – Asia" and "Best Airline – Transpacific" in a global Skytrax Research in 2003. Due to the seriously disruption by the SARS outbreak in the first half of 2003, the profit of Cathay Pacific was HK$1,303 million, down 67.3 percent compared to the previous year. Turnover amounted to HK$29,578 million, representing a decrease of 10.6 percent over 2002 (Cathay Pacific, 2004).

Dragonair is another home carrier of Hong Kong. It was established in 1985 and now is one of the most advanced airlines in Hong Kong. It operates services to 31 worldwide destinations, of which 19 are in Mainland. It focuses on Mainland flight services while Cathay Pacific concentrates in the world flight market. It carried 3.21 million passengers and 0.27 million tonnes of cargo in 2003, which contributed a profit of HK$71 million for the year. Turnover recorded at HK$5,868 million, decreased by 1.3 percent from 2002 resulting from lower traffic volume caused by SARS (Dragonair, 2004).

China Southern Airlines Company Limited is one of the largest airlines in Mainland, along with Air China and China Eastern Airlines. It has 12 regional route bases including Shenzhen. China Southern Airlines (Group) Shenzhen Company, which was established in 1992, is a wholly owned subsidiary of the Company. In 2003, it served 1.91 million passengers and 41 thousand tonnes of cargo, which increased by 8.78 percent and 18.36 percent over 2002 respectively (China Southern Airlines, 2004).

Shenzhen Airlines was launched in 1993, which is a young airline with gradual growth. During 2003, 3.50 million passengers were served by the airline, which accounted for 27.1 percent of total aviation market of Shenzhen (Statistics Bureau of Shenzhen Municipality, 2004). By the end of 2004, Shenzhen Airlines employed 3,400 people and had 24 aircraft for the operation (Shenzhen Airlines, 2005).

Although the information was not complete, a few main points can still be summarized. First, Cathay Pacific Airways is the largest airline among these four

home carriers mainly providing international passenger and cargo services. Second, the majority of flights of Dargonair are Mainland-oriented. It acts as a major airline focusing on Mainland market in Hong Kong. Moreover, the two home carriers of SBIA are relatively young compared to Cathay Pacific and Dragonair, but have had dramatic growth especially in air cargo services. For instance, the cargo volume of China Southern Airlines (Group) Shenzhen Company increased by 18.37 percent compared to 2.82 percent growth of Cathay Pacific Airways in 2003.

After a brief introduction of the four home carriers in both HKIA and SBIA, the number of flights and price of air-tickets of these home carriers will be compared. As the number of flights and ticket prices always fluctuate according to different periods of time such as seasons, weekdays or weekends, two time slots have been selected for comparison. For the first time slot, the standardized inquiry date was on 5 August 2004 and the departure date on Sunday, 5 September 2004, while the inquiry date and the departure date for the second time slot were on 7 December 2004 and Tuesday, 14 December 2004 respectively. On the inquiry date, I checked the number of flights and the price of air-tickets through the home carriers' Internet or hotline services. Since different time –lag between the inquiry date and the departure date may affect pricing, it was standardized one month between the inquiry date and the departure date for the first time slot, and only a week for the second time slot. The eight most popular Mainland cities were selected for comparison, including Beijing, Chengdu, Chongqing, Hangzhou, Kunming, Nanjing, Shanghai and Xiamen.

Figure 3.7 shows the number of flights in these eight cities provided by the

four home carriers of HKIA and SBIA in the first time slot. Generally, more flights were provided to Beijing and Shanghai cities. As Beijing is the capital city, it has played the main role as China's international gateway, while Shanghai is a fast growing national and international hub. Hence, more flight services are provided for both travelers and businessmen in these two cities. Most significantly, there were eight Hong Kong – Beijing daily flights and 12 Hong Kong – Shanghai daily flights provided by Dragonair. Besides, as Cathay Pacific focuses on international routes, it just provides only one flight to one city – Beijing. For the second time slot, the situation is about the same (Figure 3.8).

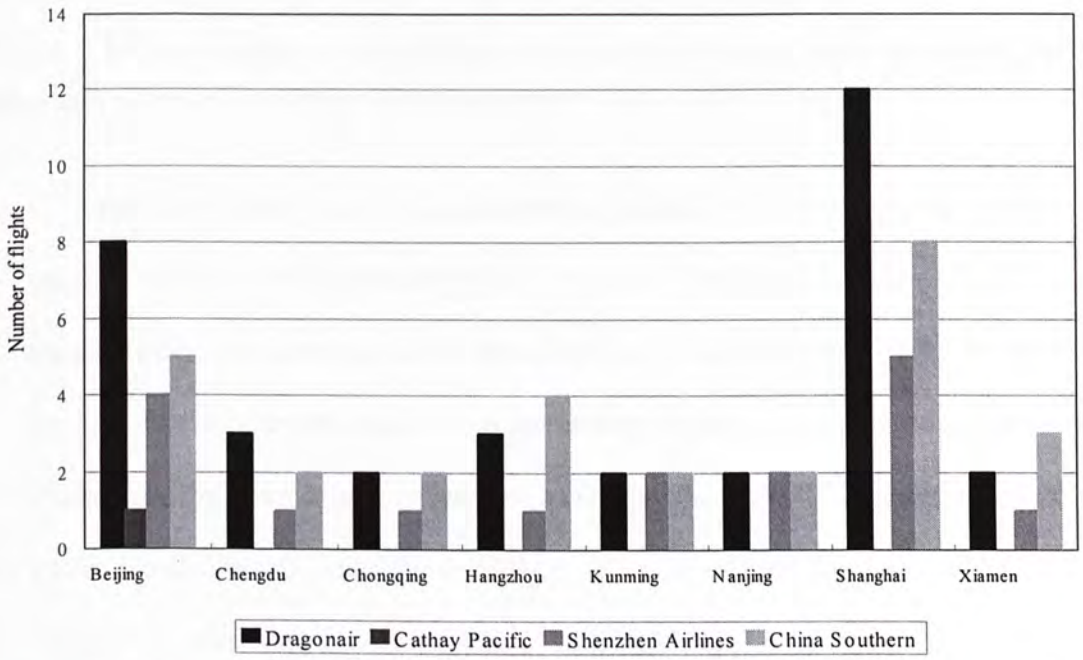

Figure 3.7 The number of daily flights provided by the four home carriers to eight Mainland cities in September 2004 (Departure Date: 05/09/2004)

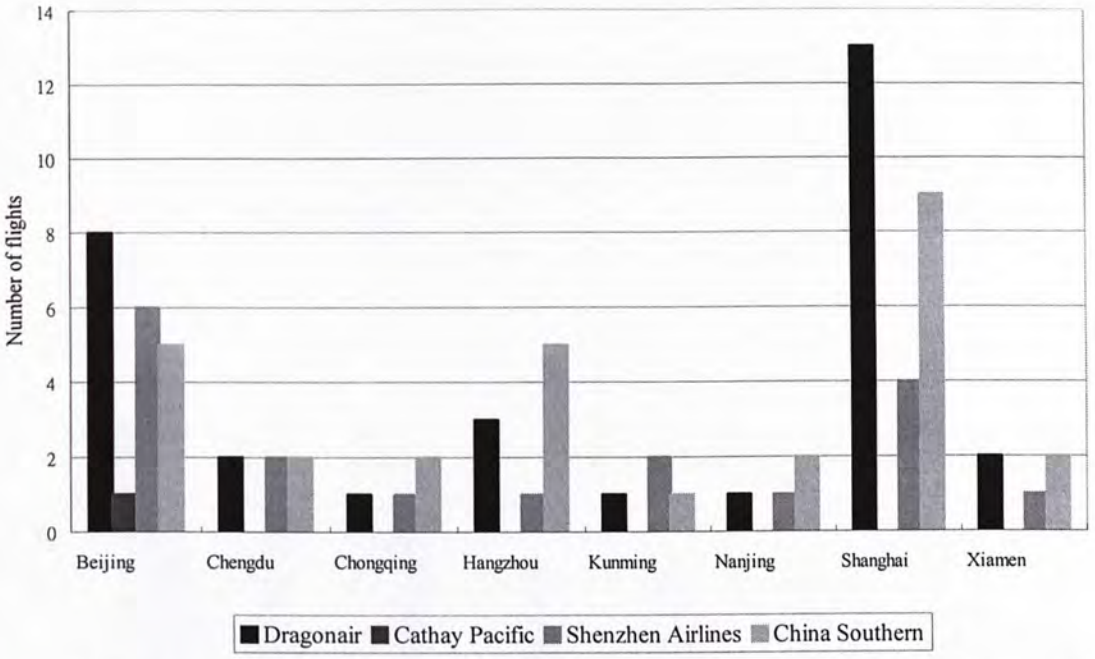

Figure 3.8 The number of daily flights provided by the four home carriers to eight Mainland cities in December 2004 (Departure Date: 14/12/2004)

As the ticket price is an important indicator for comparison, data are collected to show the different prices of economy class and business class tickets by airlines in the first time slot (Figure 3.9). As the difference between the airfare of one-way and round-trip is similar among airlines, one-way ticket price is chosen for the comparison. Moreover, as Cathay Pacific only provided one flight, focus would be on other three airlines. It is noted that the business class of Dragonair was the most expensive one. The economy class air ticket of Dragonair was even more expensive than the business class of the two home carriers of SBIA. Figure 3.10 shows the price differences in the second time slot. The price differences between the home carriers of Hong Kong and Shenzhen were even larger. This is due to different time lag between the inquiry date and the departure date of the two time slots. As stated before there was one month between the inquiry date and the departure date for the first time slot. However, there was only one week between the inquiry date and the departure date for the

second time slot. It is revealed that, given the shorter time-lag between the inquiry date and the departure date, the mainland airlines made cheaper special offer for passengers even when the departure date was near the peak travel period – Christmas holiday.

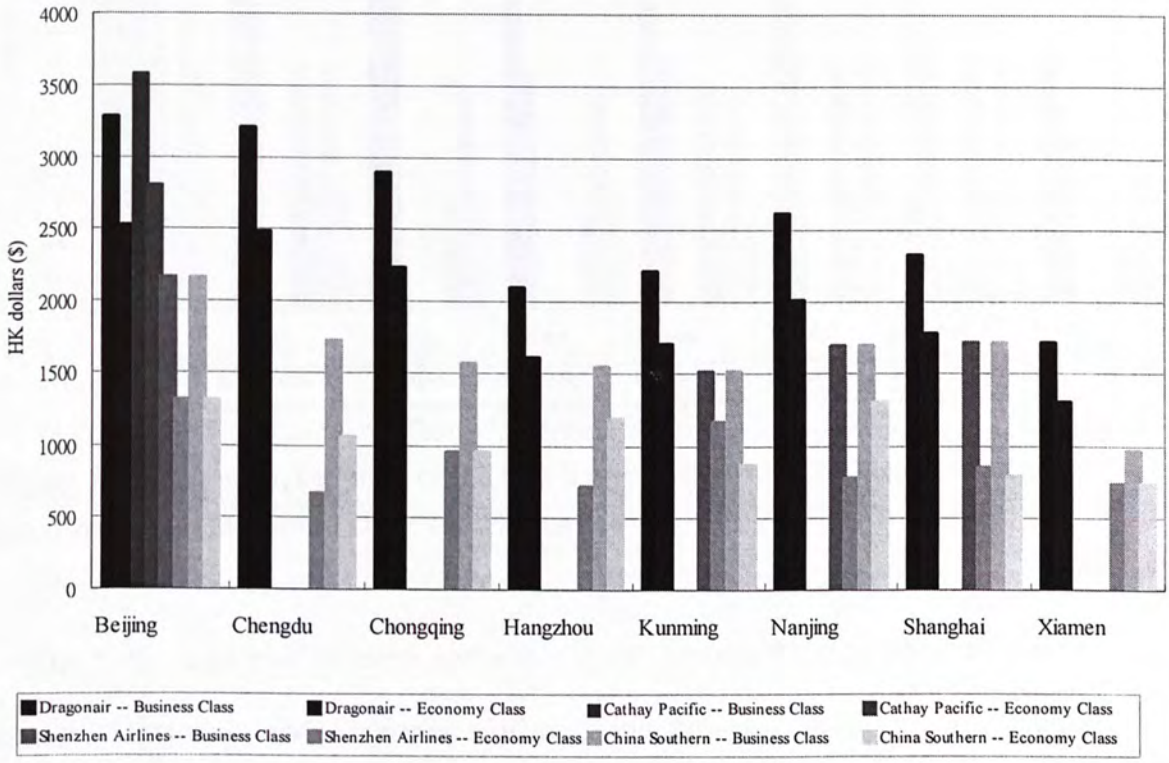

Figure 3.9 The air-ticket price of the four home carriers to eight Mainland cities in September 2004 (Departure Date: 05/09/2004)

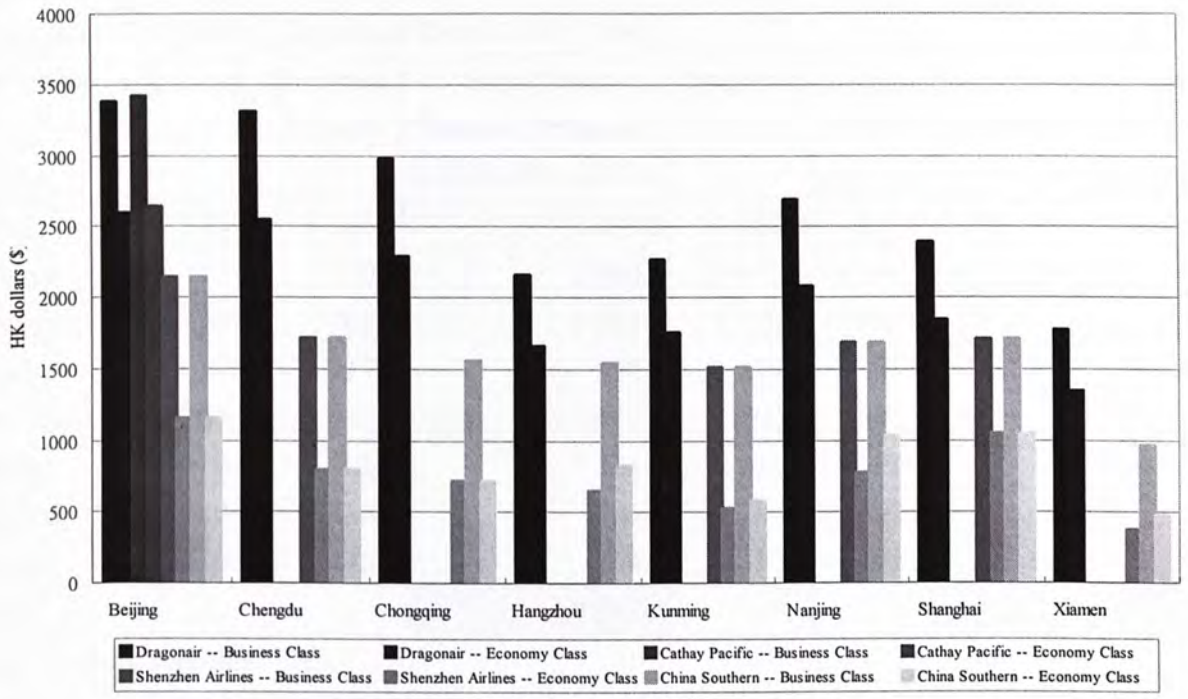

Figure 3.10 The air-ticket price of the four home carriers to eight Mainland cities in December 2004 (Departure Date: 14/12/2004)

The differences may be more noticeable if we compare the total price difference between Dragonair and Shenzhen Airlines, and between Dragonair and China Southern Airlines for two time slots (Table 3.10 and Table 3.11). In the second time slot (Table 3.11), the total price difference between Dragonair and Shenzhen Airlines was HK$10,067 compared to HK$8,392.2 in the first time slot, representing 20 percent increase over the first time slot. On the other hand, the total price difference between Dragonair and China Southern Airlines was HK$9,474.8 compared to HK$7,363.9 in the first time slot, representing 28.7 percent increase over the first one. Therefore, the price difference between the home carriers of HKIA and SBIA would be larger, when there is a shorter time lag between the inquiry date and the departure date.

Table 3.11 The ticket price difference between the home carriers of HKIA and SBIA in September 2004 (HK$) (Departure Date: 05/09/2004)

Destination	Dragonair	Shenzhen Airlines	Price difference between Dragonair and Shezhen Airlines	Dragonair	China Southern Airlines	Price difference between Dragonair and China Southern Airlines
Beijing	2 520.0	1 321.0	1 199.0	2 520.0	1 321.0	1 199.0
Chengdu	2 470.0	670.0	1 800.0	2 470.0	1 066.2	1 403.8
Chongqing	2 220.0	962.4	1 257.6	2 220.0	962.4	1 257.6
Hangzhou	1 610.0	717.1	892.9	1 610.0	1 188.9	421.1
Kunming	1 700.0	1 170.0	530.0	1 700.0	877.5	822.5
Nanjing	2 010.0	783.2	1 226.8	2 010.0	1 302.1	707.9
Shanghai	1 780.0	858.7	921.3	1 780.0	792.6	987.4
Xiamen	1 310.0	745.4	564.6	1 310.0	745.4	564.6
TOTAL			**8 392.2**			**7 363.9**

Source: Author's survey

Table 3.12 The ticket price difference between the home carriers of HKIA and SBIA in December 2004 (HK$) (Departure Date: 14/12/2004)

Destination	Dragonair	Shenzhen Airlines	Price difference between Dragonair and Shezhen Airlines	Dragonair	China Southern Airlines	Price difference between Dragonair and China Southern Airlines
Beijing	2 600.0	1 156.2	1 443.8	2 600.0	1156.2	1 443.8
Chengdu	2 550.0	799.0	1 751.0	2 550.0	799.0	1751.0
Chongqing	2 290.0	723.8	1 566.2	2 290.0	723.8	1 566.2
Hangzhou	1 660.0	648.6	1 011.4	1 660.0	827.2	832.8
Kunming	1 760.0	526.4	1 233.6	1 760.0	582.8	1 177.2
Nanjing	2 080.0	780.2	1 299.8	2 080.0	1 034.0	1 046.0
Shanghai	1 840.0	1 052.8	787.2	1 840.0	1 052.8	787.2
Xiamen	1 350.0	376.0	974.0	1 350.0	479.4	870.6
TOTAL			**10 067.0**			**9 474.8**

Source: Author's survey

As the previous comparison was only based on prices quoted directly by the airline companies, prices based on a travel agency were also used for comparison. The travel agency was called 'Hong Kong Student Travel Limited' which has

provided travel services to both students and travelers since 1970. Figure 3.11 shows the lowest prices offered by this agency for passengers to depart from either HKIA or SBIA. It is easy to identify that there is a significant price difference in air ticket between the two airports.

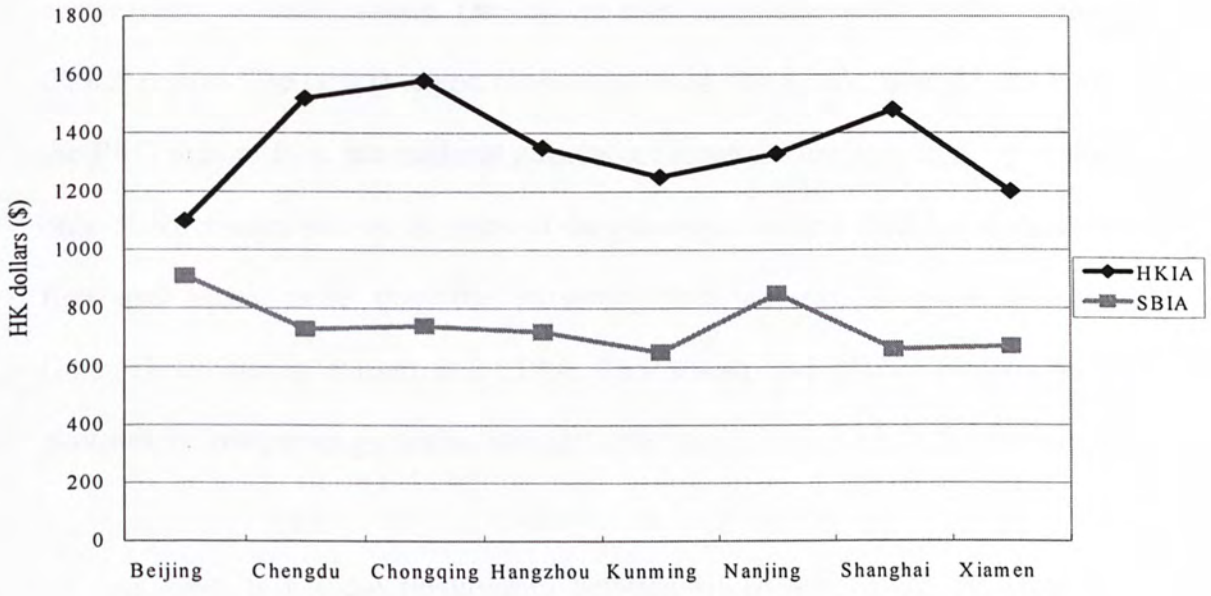

Figure 3.11 The price difference in air ticket between HKIA and SBIA offered by the Hong Kong Student Travel Limited

3.5 Summary

The air transportation in China is predicted to be the fastest growing aviation market in the world over the next twenty years, benefiting from dramatic economic development in China. Beijing, Shanghai/Hangzhou and Guangzhou/Shenzhen form a major flight corridor in China. There is intensive competition in these regions. One of the most hotly discussed regions is the GPRD region. The GPRD region consists of Hong Kong SAR, Macau SAR and the PRD region. Five international airports are located there serving a region in only 50 kilometers radius. In terms of the passenger volume, HKIA was ranked first and much more than the remaining four airports, followed by the Guangzhou Baiyun Airport and SBIA. The Macau and Zhuhai airports had persistently low passenger traffic volume in the past.

As there is a close relationship between HKIA and SBIA, the chapter identified the background and major development of the two airports. HKIA was opened in July 1998. It has the largest capacity and is currently able to handle 45 million passengers and 3 million tonnes of cargo. It offers far more international flights than SBIA. But passengers to and from mainland are also very important, accounting for 60 percent of passenger throughput. HKIA provides flight services between Hong Kong and about 139 destinations in the world. Cathay Pacific Airways Limited and Dragonair Airlines Limited are the home carriers of HKIA, the former handled 10.06 million passengers and 0.87 million tonnes of freight, and the later handled 3.21 million passengers and 0.27 million tonnes of freight in 2003.

Compared to HKIA, SBIA is relatively young and focuses on mainland

flight market. It was opened for operation in October 1991 and is designed to handle 20 million passengers and 0.3 million tonnes of air cargo ultimately. It is the fourth biggest international airport in China in terms of both passenger and cargo throughput. In 2003, the passenger throughput of SBIA was 10.84 million and the air cargo throughput was 0.35 million tonnes. It provides flight services to about 83 cities among which most are the Mainland cities. SBIA offers services to many more mainland cities than HKIA. China Southern (Group) Shenzhen Branch and Shenzhen Airlines are the two home carriers. The former handled 1.91 million passengers and 0.04 million tonnes of cargo, and the later handled 3.50 million passengers respectively in 2003.

Although the facilities and current performance of HKIA is better than SBIA, the potential for further development in Mainland market of SBIA cannot be neglected. Referring to the financial condition of both airports, it is obvious that all the financial items of HKIA that compared were higher than those of SBIA. However, the growth of SBIA is very remarkable. Even during the period of SARS outbreak, it still had double digits growth. Generally, air-tickets in SBIA are much cheaper than HKIA. Moreover, by the competitive ticket pricing offered by the airlines of SBIA, it could attract those price sensitive passengers to use it. Hence, HKIA and SBIA have their own comparative advantages. Making use of the comparative advantages of HKIA and SBIA would enable them to be complementary to each other. However, passengers' choice of airports is a critical factor in the growth of passenger throughput. It is the focus of the next chapter.

Chapter 4

EVALUATION AND CHOICE OF AIRPORTS BY PASSENGERS

After a comprehensive overview of HKIA and SBIA in terms of their background, facilities, performance, financial conditions as well as their home carriers, the two airports will be further evaluated and analyzed from the perspective of different passengers in this chapter. This is followed by an assessment of the choice of airports by passengers. As stated earlier, the questionnaire survey of passengers was conducted in July and August in 2004. A total of 838 questionnaires were distributed and 725 (86.5 %) were returned.

4.1 Profile of Respondents

Basic information about the respondents is presented in Table 4.1. Most of the respondents are men (78.5%) who were mostly going on a business trip. 73.5 percent of the respondents are within the age range from 17 to 44. The place of usual residence is distributed as follows: 35.7 percent Mainland China, followed closely by Hong Kong (29.0%). As a high proportion of travelers by air are businessmen or high-income residents, the highest monthly income group represented the highest percent of the sample, accounting for 29.7 percent. Respondents' trip purposes were mostly for business (64.1%), and vacation trip (13.2%) was ranked second on the list. Moreover, a large portion of respondents has used the Hong Kong airport to travel between Hong Kong and Mainland (71.4%), compared with about 59.6 percent of respondents who has used the Shenzhen airport. Many of them have used one or both airports for more than 10

times (27.4%) (Figure 4.1).

Table 4.1 Profile of the respondents

Sample	Number	%
Sex		
Male	569	78.5
Female	156	21.5
Place of usual residence		
Hong Kong	210	29.0
Mainland China	259	35.7
Others	195	26.9
Hong Kong and Mainland China	51	7.0
Hong Kong and Others	2	0.3
Mainland China and Others	6	0.8
Hong Kong, Mainland China and Others	2	0.3
Age		
Below 17	6	0.8
17-34	292	40.3
35-44	241	33.2
45-54	138	19.0
55-64	41	5.7
Above 64	7	1.0
Grouping of respondents (Y and N: used the airport; N: not used)		
HKIA (N); SBIA (N)	101	13.9
HKIA (Y); SBIA (N)	106	14.6
HKIA (N); SBIA (Y)	48	6.6
HKIA (Y); SBIA (Y)	344	47.4
Purpose of most trips		
For business	465	64.1
Visiting friends/relatives	24	3.3
Vacation travel	96	13.2
For conference	14	1.9
Others	6	0.8
For business and visiting friends/relatives	13	1.8
For business and vacation travel	52	7.2
For business and conference	25	3.4
Visiting friends/relatives and vacation travel	15	2.1
Visiting friends/relatives and for conference	1	0.1
Vacation travel and for conference	1	0.1
For business, visiting friends/relatives and vacation travel	3	0.4
For business, visiting friends/relatives and conference	3	0.4
For business, vacation travel and conference	5	0.7
For business, visiting friends/relatives, vacation travel and conference	2	0.3
Occupation		
Managers & administrators	395	54.5
Professionals	161	22.2
Clerks	57	7.9
Service workers & shop sales workers	23	3.2
Craft & related workers	8	1.1
Plant & machine operators & assemblers	1	0.1
Elementary occupations	4	0.6
Housewives	5	0.7
Students	19	2.6

Table 4.1 Profile of the respondents (continued)

Sample	Number	%
Retired	4	0.6
Others	48	6.6
Personal monthly income		
Below HK$4,000	54	7.4
HK$4000 – HK$6,999	30	4.1
HK$7,000 - $HK9,999	45	6.2
HK$10,000 – HK$14,999	99	13.7
HK$15,000 – HK$19,999	113	15.6
HK$20,000 – HK$24,999	72	9.9
HK$25,000 – HK$29,999	40	5.5
Above HK$30,000	215	29.7
Not Applicable	57	7.9

Source: survey in 2004 by the author

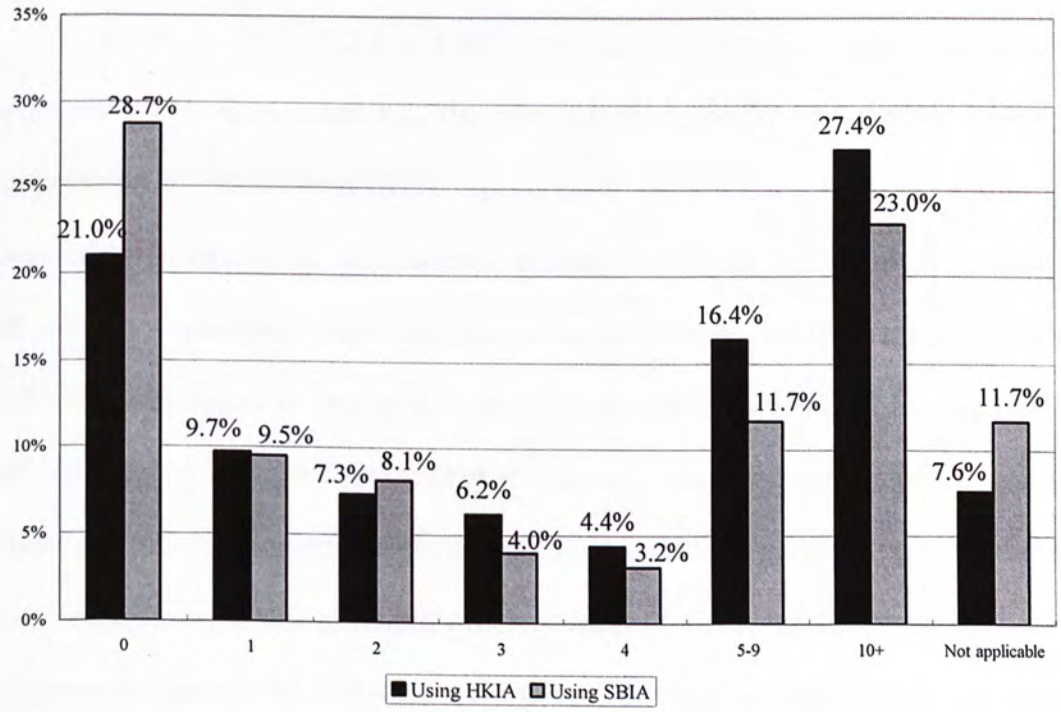

Figure 4.1 Distribution of respondents by frequency of previous travel between Hong Kong and Mainland China by using HKIA and SBIA

4.1 Respondents Evaluation of the Two Airports

According to the previous chapter, we know that the facilities and performance of HKIA are far ahead of SBIA. This section will examine how the respondents evaluate the two airports in four main aspects – variety of airlines and services, cost of air-tickets, hardware and software of the airports. It is important to know what are the strengths and weaknesses of the two airports from the passenger perspective when consider the relationship between two airports and for further improvement.

The rating of the HKIA and SBIA on various criteria is presented in Figure 4.2 and 4.3. It is revealed that the respondents generally had a more positive impression of HKIA than SBIA especially in some criteria such as variety of service to international destinations, passenger facilities and terminal comfort. However, respondents perceived that some criteria on HKIA are poorer than SBIA. For instance, variety of service to destinations in Mainland China and cost of air-ticket to Mainland China. For the overall satisfaction of the two airports, there are 525 respondents perceived that HKIA as 'very good' or 'good' among 645 respondents to this question, which is about 81.4 percent. However, only 179 respondents perceived SBIA as 'very good' or 'good' among 508 respondents, which only account for 35.2 percent.

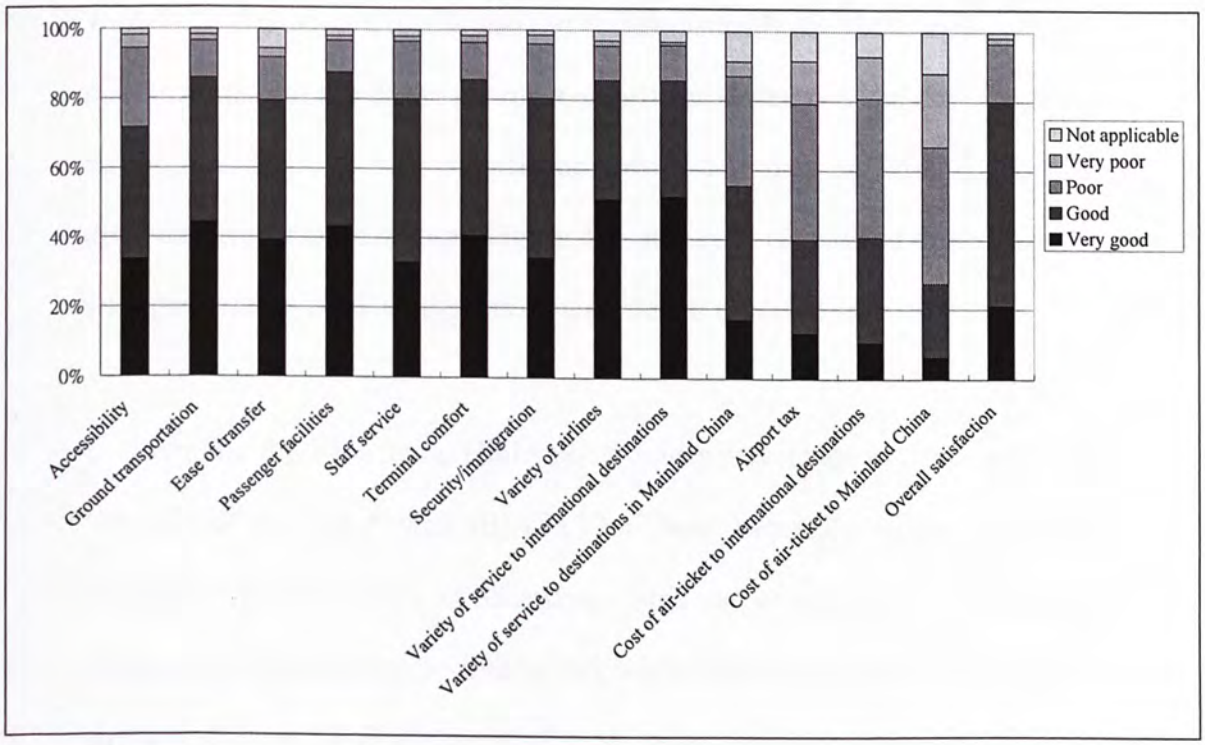

Figure 4.2 Rating of HKIA by 14 criteria

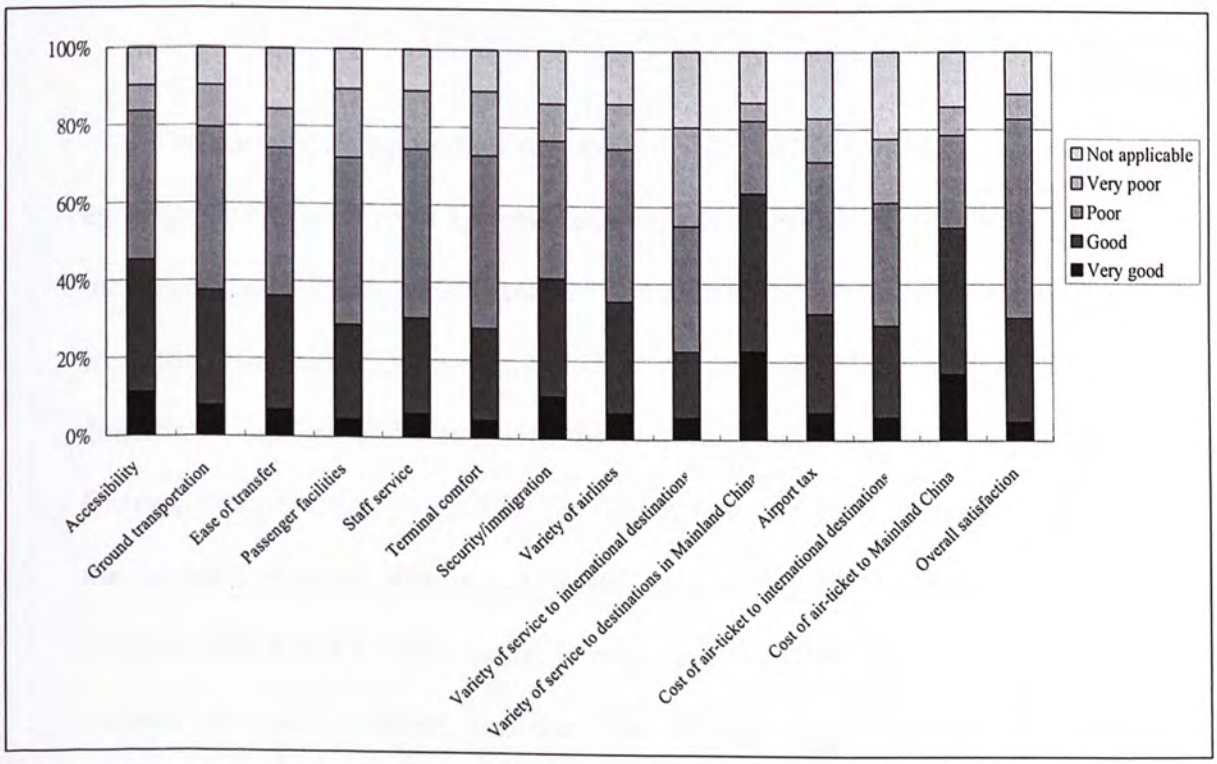

Figure 4.3 Rating of SBIA by 14 criteria

The details of the rating on the 14 criteria of both airports were shown in

Table 4.2. Chi-square test is used to test statistically the difference between the two airports. All the criteria show a significant difference between the rating on HKIA and SBIA at 0.01 significance level. The data in Table 4.2 is slightly different from Figure 4.2 and Figure 4.3, as it only considered those respondents who gave rating on both airports on a particular criterion.

Among the 14 criteria, HKIA got a higher percentage in the combination of 'very good' and 'good' than SBIA in 12 of them, except the criteria called variety of service to destinations in Mainland China and cost of air-ticket to Mainland China. These results can be interpreted and explained by observations in the two airports. Due to the first class design of airport, the highest level of service and extensive flight network, HKIA earned a desirable reputation and recognition from the public.

The various transportation services provided in HKIA such as taxis, buses and especially, the Airport Express railway accomplish an efficient link between the airport and the city, which resulted in a high rating for HKIA in Accessibility from the respondents. Moreover, the clear signposting and convenient access for departures, arrivals and transfer in the terminal contributed to a high rating in Ground transportation of HKIA. The higher rating in Ease of transfer reflected the better directions, distances and staff availability in HKIA than in SBIA. Besides, HKIA had a higher rating in passenger facilities than SBIA due to more choices of shops, catering facilities and business facilities and even cleaner washrooms in HKIA. Some 88.5 percent of respondents perceived that passenger facilities of HKIA were 'very good' or 'good' compared with only 27.6 percent for those of SBIA. The higher staff availability and assistance, and better staff

attitude and language skills of HKIA also contributed to an excellent rating in staff service. In addition, the spacious passenger terminal of HKIA provides an outstanding environment in terms of seating, cleanliness and queuing with the benefit of short queuing times, high efficiency and speed of immigration process. This resulted in high rating in terminal comfort and security or immigration of HKIA. It is obvious that the respondents are much impressed by the hardware and service quality of HKIA.

The results from questionnaire survey about the airlines are consistent with findings in Chapter three. As HKIA is served by 57 airlines and SBIA by only 15 airlines for passenger services, HKIA had higher ranking than SBIA. Moreover, respondents were impressed by the huge difference in passenger services between about 78 international destinations in HKIA and only one international destination in SBIA. As mentioned in Section 3.5, SBIA covers 32 more mainland cities than HKIA and this was an attractive point for the respondents. Hence, the strength of SBIA in offering more variety of service to destinations in Mainland China contributed to a high ranking in this criterion.

On airport tax of these two airports, HKIA's tax is HK$120 and SBIA's tax is different between international travel and domestic travel, which are RMB$90 (HK$84.9) and RMB$50 (HK$47.2) respectively. However, there were still slightly more respondents who voted HKIA's airport tax as 'very good' and 'good' than that of SBIA. This may be due to better facilities and services offered by HKIA so that respondents thought that it was worthwhile for spending that amount of airport tax. Besides, there was a higher rating on cost of air-ticket to international destinations for HKIA than SBIA. This result only reflected the

perception of the respondents, as most of them did not fly from SBIA for international trips. On the other hand, the high ranking of cost of air-ticket to Mainland China of SBIA means that the competitive low prices of Mainland tickets from SBIA already received recognition from the public.

Table 4.2 Rating on HKIA and SBIA by respondents

Criteria (Number of respondents)	HKIA (%)					SBIA (%)					HKIA is better than SBIA
	*1	2	3	4	5	*1	2	3	4	5	Yes/No
Accessibility (560)	32.1	37.7	24.5	3.6	2.1	10.9	33.8	39.1	6.8	9.5	Yes
Ground transportation (556)	43.0	42.8	10.3	2.0	2.0	6.8	29.3	43.0	11.2	9.7	Yes
Ease of transfer (537)	38.0	41.7	11.7	2.6	6.0	6.7	28.1	39.3	10.2	15.6	Yes
Passenger facilities (548)	44.2	44.3	8.2	1.3	2.0	4.2	23.4	43.4	18.4	10.6	Yes
Staff service (551)	33.0	47.5	15.6	1.6	2.2	6.0	24.0	43.7	15.4	10.9	Yes
Terminal comfort (549)	41.5	44.3	10.6	1.6	2.0	4.6	23.0	45.0	16.8	10.7	Yes
Security/immigration (544)	33.0	47.3	15.1	2.8	1.8	11.0	29.5	36.3	9.8	13.4	Yes
Variety of airlines (532)	51.5	33.8	10.0	1.3	3.4	6.8	28.0	39.7	11.8	13.7	Yes
Variety of service to international destinations (523)	53.3	32.9	9.4	1.0	3.4	5.5	15.9	32.7	26.2	19.7	Yes
Variety of service to destinations in Mainland China (526)	15.2	39.9	32.5	4.4	8.0	22.8	40.1	19.0	4.4	13.7	No
Airport tax (516)	13.0	25.6	39.7	13.2	8.5	6.6	25.6	39.7	10.7	17.4	Yes
Cost of air-ticket to international destinations (514)	9.7	30.7	40.1	12.5	7.0	6.0	25.1	33.7	12.3	23.0	Yes
Cost of air-ticket to Mainland China (522)	5.2	19.7	40.6	23.0	11.5	17.4	37.5	23.4	7.1	14.6	No
Overall satisfaction (542)	20.1	59.6	16.4	1.8	2.0	4.6	25.3	52.6	6.6	10.9	Yes

Source: Author's survey

Note: * 1 – Very good; 2 – Good; 3 – Poor; 4 – Very poor; 5 – Not applicable. The data show the percentage of these choices by respondents in each airport. The airport with higher percentage with good and very good choices is considered better.

Passengers may not provide reliable answer if they have not used an airport

before. In order to make a thorough investigation, only the respondents who used both airports were selected for further analysis by using Chi-square test. Table 4.3 show that majority of the criteria of the two airports obtained a higher percentage in the combination of 'very good' and 'good' than those in Table 4.2, except the criteria called variety of service to destinations in Mainland China under HKIA and overall satisfaction under SBIA. The respondents who used both airports gave an even lower rating to HKIA under the criterion named variety of service to destinations in Mainland China. This reflects that the respondents were dissatisfied with the level of services to Mainland destinations in HKIA. The rating of overall satisfaction of SBIA by the respondents who used both airports was not different from all respondents.

If compared with Table 4.2, the rating on some criteria under HKIA is significantly increased in the combined percentage of 'very good' and 'good' in Table 4.3. For instance, ground transportation, passenger facilities, staff service as well as terminal comfort had higher rating. This result implies that passengers thought that the actual qualities of the above four items of HKIA as experienced by them are much better than their expectation. It means that all these items are the strengths of HKIA in comparison with SBIA. On the other hand, the criteria named variety of service to destinations in Mainland China and cost of air-ticket to Mainland China of SBIA had a higher rating by respondents who used both airports than by those who did not. Hence, SBIA are better than HKIA in above two items from general passenger perception, and even better as perceived by those passengers who used both airports before.

Table 4.3 Rating on HKIA and SBIA by the respondents who used both airports before

Criteria (Number of respondents)	HKIA (%)					SBIA (%)					HKIA is better than SBIA
	*1	2	3	4	5	*1	2	3	4	5	Yes/No
Accessibility (319)	35.4	36.4	23.8	3.4	0.9	11.6	34.8	45.1	6.6	1.9	Yes
Ground transportation (318)	47.2	41.5	9.4	0.9	0.9	7.9	28.9	49.4	12.3	1.6	Yes
Ease of transfer (311)	38.5	42.8	12.2	2.3	4.2	6.8	30.5	44.1	11.9	6.8	Yes
Passenger facilities (318)	48.1	45.0	5.7	0.9	0.3	3.5	24.2	47.5	23.0	1.9	Yes
Staff service (317)	36.6	47.6	13.9	1.6	0.3	5.7	24.6	49.8	17.7	2.2	Yes
Terminal comfort (318)	48.7	40.6	9.4	0.9	0.3	4.4	24.5	50.9	18.6	1.6	Yes
Security/immigration (314)	35.0	45.9	16.6	2.2	0.3	11.5	30.9	43.3	11.1	3.2	Yes
Variety of airlines (308)	54.2	32.8	10.7	1.0	1.3	7.5	32.8	42.9	13.3	3.6	Yes
Variety of service to international destinations (303)	57.4	30.4	9.6	1.0	1.7	5.3	17.8	36.0	31.7	9.2	Yes
Variety of service to destinations in Mainland China (304)	16.4	38.2	38.2	5.3	2.0	27.6	44.1	19.7	5.6	3.0	No
Airport tax (297)	14.5	24.9	42.4	12.1	6.1	7.1	29.3	42.1	13.1	8.4	Yes
Cost of air-ticket to international destinations (299)	8.0	34.8	38.5	13.4	5.4	6.7	25.4	37.5	16.1	14.4	Yes
Cost of air-ticket to Mainland China (303)	3.6	21.5	45.2	23.8	5.9	22.8	42.6	23.8	6.9	4.0	No
Overall satisfaction (311)	20.3	60.5	17.7	1.3	0.3	4.5	25.4	60.8	7.4	1.9	Yes

Source: Author's survey

Note: * 1 – Very good; 2 – Good; 3 – Poor; 4 – Very poor; 5 – Not applicable

Some relationship among various ratings can be observed in certain conditions. Table 4.4 showed the rating of HKIA and SBIA by respondents' place of usual residence. As '1' represented the highest rating and '4' represented the lowest rating, the respondents whose place of usual residence is Hong Kong or Mainland tended to give a higher rating on their own airport. Table 4.4 showed that Hong Kong residents gave the highest rating on HKIA (1.92), compared with 2.00 rated by Mainland residents and 2.13 rated by residents from other countries.

On the other hand, Mainland residents also gave the highest rating on the Shenzhen airport (2.51), compared with 2.83 rated by Hong Kong residents and 2.81 rated by residents from other countries. The tendency to give a higher rating on the airport that located in the place of usual residence is mainly due to place identity. This means that respondents generally had a more positive attitude to their place than other places. They were more likely to appreciate the environment, people as well as infrastructure that in their place of usual residence. Hence, they would tend to give a higher rating than non-residents on their own airport. However, comparing the rating on the two airports, all three groups of respondents still perceived that HKIA was better than SBIA.

Table 4.5 also shows that respondents generally had a positive impression on HKIA over SBIA, no matter the respondents who just used either one of the airports. For instance, the respondents who had used HKIA and had not used SBIA (HKIA (Y); SBIA (N)) gave rating of 2.00 on HKIA and 2.58 on SBIA. On the other hand, the respondents who had used SBIA and had not used the HKIA (HKIA (N); SBIA (Y)) gave rating of 2.14 on HKIA and 2.59 on SBIA. It was the case even though they had not used both airports before. For this group (HKIA (N); SBIA (N)), the respondents gave 2.11 on HKIA compared to 2.68 on SBIA. It may be due to stronger advertisement exposure and better reputation of HKIA in the world. If we just focus on the respondents who had used both airports (HKIA (Y); SBIA (Y)), HKIA has a higher rating than SBIA. The rating of HKIA is 2.00 as compared to 2.72 of SBIA.

Table 4.4 The rating of HKIA and SBIA by respondents' place of usual residence

Place of usual residence	HKIA	SBIA
Hong Kong	1.92	2.83
Mainland China	2.00	2.51
Others	2.13	2.81

Source: Author's survey

Note: Measured on a four-point Likert-type scale. (From 1 = the highest rating, to 4 = the lowest rating)

Table 4.5 The rating of HKIA and SBIA by different groups of respondents

Grouping of respondents (Y: used the airport; N: not used the airport)	HKIA	SBIA
HKIA (N); SBIA (N)	2.11	2.68
HKIA (Y); SBIA (N)	2.00	2.58
HKIA (N); SBIA (Y)	2.14	2.79
HKIA (Y); SBIA (Y)	2.00	2.72

Source: Author's survey

Note: Measured on a four-point Likert-type scale (From 1 = the highest rating, to 4 = the lowest rating)

4.3 The Main Factors for Choosing an Airport for Travel

Understanding the reasons of how the passengers chose an airport is crucial for understanding the relationship between the two airports and for the aviation industry. The main factor for choosing an airport as indicated by the respondents is presented in Figure 4.4. Referring to Appendix II, the patterns of distribution on the cumulative percentage of accessibility to an airport, time to an airport and flight cost are about the same. There was about 82.2 to 82.5 percent of respondents perceived that these three factors as 'The most important', 'Important' or 'Relatively Important'. That means that theses three factors were very significant in the choice of airports by passengers. Comparably, there were relatively few respondents who perceived service quality of an airport and service quality of an airline as 'The most important', 'Important' or 'Relatively Important' (75.6% to 76.7%). Particularly, service quality of an airport is the least important factor among all of them. Hence, the airport with high level of accessibility and relatively competitive airfares will have higher chance to be chosen by passengers.

More specifically, there is a correlation between the perception of flight cost and the monthly income of the passengers. It shows that the passengers with lower monthly income were more sensitive to the flight cost than those passengers with higher monthly income (Table 4.6). The Chi-square test indicated that the negative relationship is significant at 0.01 significance level.

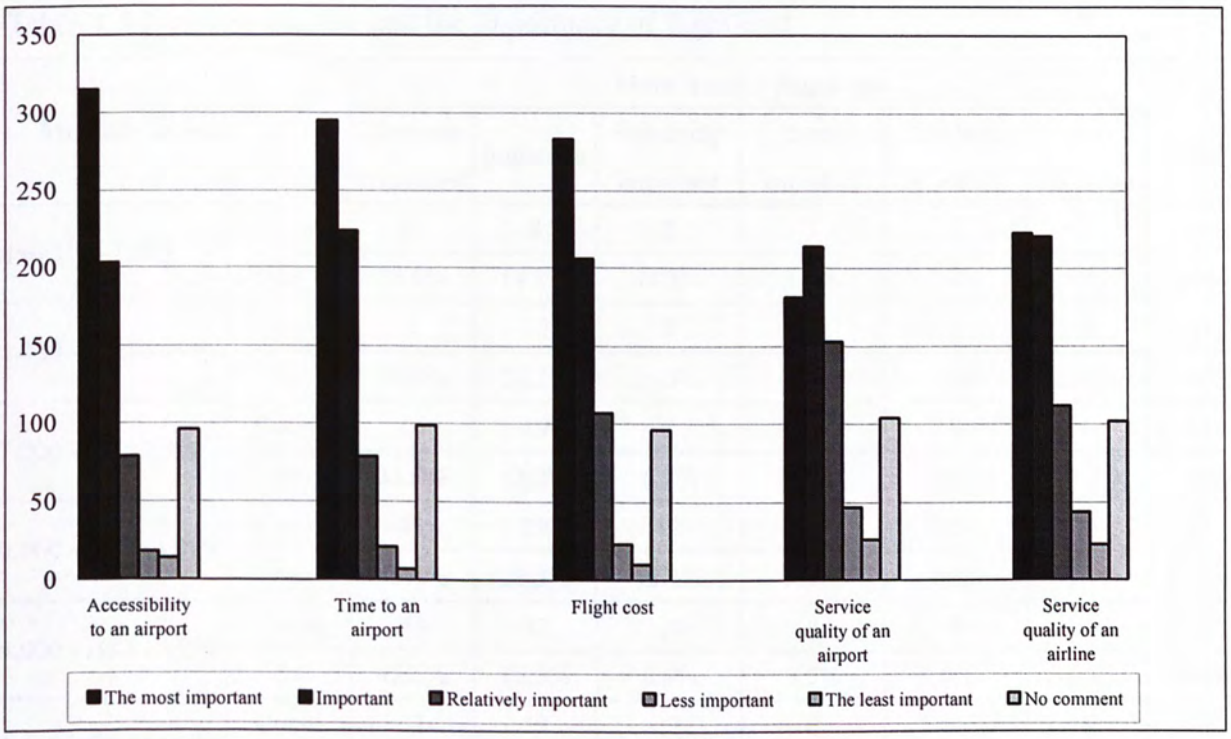

Figure 4.4 The main factors of choosing an airport by respondents (number of respondents)

Table 4.6 Monthly income and the importance of flight cost

Monthly income		Main factor - Flight cost						
		The most important	Important	Relatively important	Less important	The least important	No comment	Total
Below HK$4,000	Count	27	8	8	1	0	10	54
	%	50.0%	14.8%	14.8%	1.9%	0.0%	18.5%	100%
HK$4,000 - HK$6,999	Count	9	10	5	0	0	6	30
	%	30.0%	33.3%	16.7%	0%	0%	20.0%	100%
HK$7,000 - HK$9,999	Count	16	19	3	1	0	6	45
	%	35.6%	42.2%	6.7%	2.2%	0%	13.3%	100%
HK$10,000 - HK$14,999	Count	43	29	12	2	0	13	99
	%	43.4%	29.3%	12.1%	2.0%	0%	13.1%	100%
HK$15,000 - HK$19,999	Count	48	32	10	4	0	19	113
	%	42.5%	28.3%	8.8%	3.5%	0%	16.8%	100%
HK$20,000 - HK$24,999	Count	32	19	13	0	0	8	72
	%	44.4%	26.4%	18.1%	0%	0%	11.1%	100%
HK$25,000 - HK$29,999	Count	17	12	4	4	0	3	40
	%	42.5%	30.0%	10.0%	10.0%	0%	7.5%	100%
Above HK$30,000	Count	69	60	48	10	9	19	215
	%	32.1%	27.9%	22.3%	4.7%	4.2%	8.8%	100%
Not applicable	Count	22	17	4	1	1	12	57
	%	38.6%	29.8%	7.0%	1.8%	1.8%	21.1%	100%
Total	Count	283	206	107	23	10	96	725
	%	39.0%	28.4%	14.8%	3.2%	1.4%	13.2%	100%

Source: Author's survey

4.4 Respondents' Satisfaction on the Road or Sea Connections to and from the Airports

Despite the examination of the satisfaction of the two airports, the road and sea connections are also need to be assessed for the comparative advantage of the two airports. The road and sea connections refer to two different aspects according to the specific airport. For HKIA, the road and sea connections refers to connections between HKIA and the mainland cities, while the road and sea connections of SBIA refers to connections between SBIA and the remaining Mainland cities as well as Hong Kong SAR. As stated in Chapter 3, there is a well-established coach and ferry service network in both HKIA and SBIA. There are 10 destinations covered by coach services and six destinations covered by ferry services in HKIA. On the other hand, SBIA provides coaches to shuttle passengers to three destinations and ferries to Hong Kong and Macau.

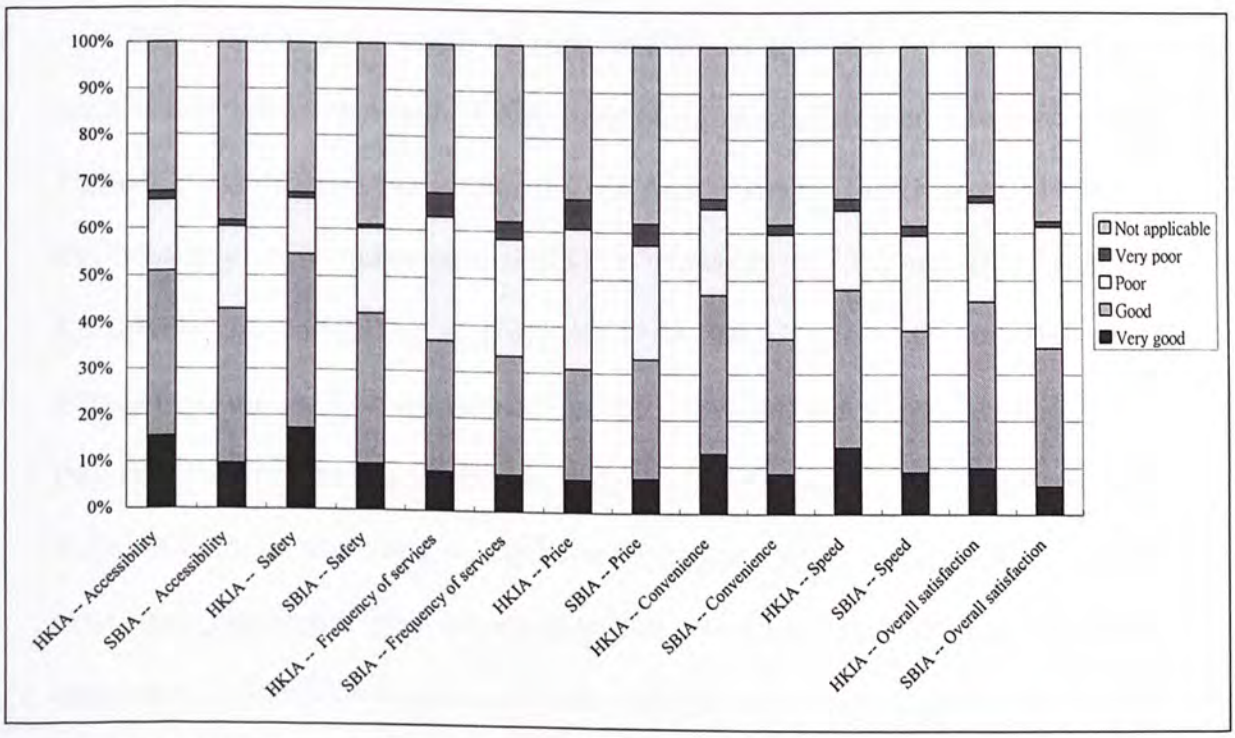

Figure 4.5 Comparison of the rating on the road or sea connections to and from the airports

Figure 4.5 showed the rating of the road or sea connections to and from HKIA and SBIA based on six criteria including safety. Approximately, the road or sea connections between the HKIA and nearby mainland cities especially in the PRD region are better than those between SBIA and other mainland cities. The difference is especially significant on the criteria of safety, convenience and speed. There were about 54.6 percent of respondents claimed that the safety of the road or sea connections of HKIA was 'Very good' or 'Good', compared with only 42.2 percent for SBIA. There was also a same pattern on the criteria of convenience and speed (Appendix III). Nevertheless, the relatively low-price of SBIA's road or sea connections gained a better reputation than HKIA. There were 33.1 percent of the respondents stated that the price of the road or sea connections of SBIA was 'Very Good' or 'Good', in contrast with 30.9 percent of the respondents for that of HKIA.

The different price could be supported by an example. For instance, the same route travel between SBIA and Hong Kong/Kowloon provided by TurboJET has different prices. For the trip from SBIA to Hong Kong/Kowloon, the economy class ticket costs HK$171. However, for the trip from Hong Kong/Kowloon to SBIA, it costs HK$189. Despite that, for the overall satisfaction, the road or sea connections of HKIA still got a higher rating than those of SBIA. Among all criteria, only the Safety criterion was significantly different between the rating on HKIA and SBIA at 0.01 significance level. It is clear that passengers had comparably low confidence in the road or sea connections of the Mainland airports concerning about safety and security issue.

4.5 Summary

According to the previous analysis, we can summarize the major results on the evaluation of HKIA and SBIA, major factors for choosing an airport for travel as well as evaluation on the road or sea connections to and from the airports. They are listed as follows.

1. The hardware and software of HKIA is better than SBIA on various aspects such as accessibility, ground transportation, ease of transfer, passenger facilities, staff service, terminal comfort as well as security/immigration. In addition, in the view of the respondents, HKIA offers a variety of airlines, more flights to international destinations and more acceptable airport tax and cost of air ticket to international destinations. Most importantly, HKIA has a higher rating in overall satisfaction than SBIA.
2. SBIA obtained a high rating for variety of service to destinations in Mainland China and Cost of air ticket to Mainland China.
3. The respondents would have a tendency to give a higher rating on the airport that located in their place of usual residence than non-residents on the same airport.
4. The respondents generally inclined to give a higher rating on HKIA, no matter they have used it or not.
5. Accessibility to an airport, time to an airport and flight cost are the most important factors for passengers in choosing an airport for travel.
6. Passengers with lower monthly income were more sensitive to the flight cost than those passengers with higher monthly income.
7. The respondents generally perceived that the road or sea connections between HKIA and the Mainland cities are better than those between SBIA

and the remaining Mainland cities as well as Hong Kong, more significantly, on the criteria named convenience and speed. There is also very significant difference in the rating of the two airports in the safety criterion.

8. SBIA got a comparatively higher rating in price of road or sea connections than HKIA.

Chapter 5

RELATIONSHIP BETWEEN HKIA AND SBIA: CURRENT STATUS AND RECOMMENDATIONS

After an examination of the passenger choice and the evaluation of the airports in the previous chapter, this chapter will analyze the relationship between HKIA and SBIA considering the views from different stakeholders. The major stakeholders include passengers, airlines that operating in Hong Kong or Shenzhen, the airport authorities of Hong Kong and Shenzhen as well as an independent scholar. The current relationship and cooperation between the two airports will be outlined first.

5.1 Recent Cooperation between HKIA and SBIA

The five GPRD airports are located in an area within a distance of 50 kilometers, which are often blamed as duplicated infrastructure that is unessential and inefficient. Hence, if there is no further coordination in such aviation sector with massive over-investment, fierce competition among the five airports will be resulted. This in turn will become a vicious cycle and erode the competitiveness of the whole GPRD region.

All the authorities of the five airports have also recognized the urgency to address the problem. Therefore, the PRD A5 Forum was established and held the first meeting in July 2001. The aim of the PRD A5 Forum was to provide a platform for the five airports to examine and promote areas of common interest, strengthen competitiveness and contribute towards the economic development of

the whole PRD region rather than the regional airport's profit and prosperity. After five meetings in the past few years, the progress in the cooperation among these five airports was not as effective as what the authorities claimed before. They only signed a Letter of Intent to cooperate in such areas as flight diversion, emergency coordination, smooth passenger and cargo processing, and safety and security.

The setting up of the Forum is supposed to help develop the complementary strengths of the airports in the PRD region to connect China with the rest of the world. However, it is obvious that the Forum still cannot bring into full play at this moment. On the other hand, relatively significant cooperation takes place between some airports without utilizing the Forum platform. One example is the SkyPier marine passenger service that provides convenient transport for passengers' travel between HKIA and SBIA. A program called 'Fly via Hong Kong' is another excellent example.

SkyPier marine passenger service is a project that facilitates transfer between HKIA and SBIA. As mentioned in Chapter 3, the operation of SkyPier started in September 2003. With the support of authorities in Guangdong and related five local authorities, HKIA has extended its home market to Shekou, Fuyong, Macau, Humen, Zhongshan as well as Guangzhou. Especially, the Fuyong port in Shenzhen provides excellent connections between HKIA and SBIA, as the Fuyong port is located nearby SBIA. There are some shuttle bus services at five minutes interval, providing passengers with free transfer between the port and SBIA that only takes about five to ten minutes. With the support of the related authorities in Shenzhen, passengers from mainland can substantially

reduce the travel time to use HKIA and SBIA for international destinations. Hence, the introduction of SkyPier can effectively encourage the use of both airports by mainland passengers.

The special promotion program of 'Fly via Hong Kong' is another latest cooperation project between HKIA and SBIA introduced in July 2004. 'Fly via Hong Kong' is a package to offer convenience for travelers, including time-matched cross boundary coach and ferry tickets, round-trip economy class air ticket and gift vouchers to let travelers to use the facilities available at HKIA. With this program, more passengers from Mainland would be attracted to SBIA and via well-developed road and sea connections to HKIA, then travel to international destinations. For example, a passenger from Beijing can come first by plane to Shenzhen then by road or sea connections to HKIA, and then enjoy the great connectivity of HKIA to the rest of the world. The great connectivity, more airlines and number of flights in HKIA than any other airports in mainland, and multi-module traveling would be the attractive for most mainland passengers. It is a milestone to achieve cooperation among different partners including participating airlines, travel agencies as well as cross boundary coach and ferry operators to provide a comprehensive service package to Mainland residents. Most especially, this program can enhance the competitiveness of both airports.

Except for above projects launched in the past two years, negotiation on long-term cooperation such as airport alliance has also been discussed recently. For instance, the Shenzhen government invited the Hong Kong Airport Authority to be a strategic investor of SBIA in 2004 (Airwise News, 2004). This was also confirmed by a senior staff of HKAA, who revealed that HKIA was in talks to

purchase a stake in SBIA. Nevertheless, before the further discussion about the further cooperation between HKIA and SBIA, we need to know the opinions from all stakeholders on this issue.

5.2 Opinions from the Different Stakeholders

In order to obtain public views about the relationship between HKIA and SBIA, a set of related questions were asked in the questionnaire survey. The detailed passenger opinions on the relationship are illustrated as follows. Then, the opinions from the airlines, airport authorities and a scholar will be discussed.

According to Figure 5.1, about 43.8 percent of respondents described the relationship between the two airports as 'gentle competitive', followed by 'cooperative' (23.4%), 'no relations' (11.7%), and 'fierce competitive' (6.9%). Most respondents perceived that a relative fine relationship existed between the two airports. But there is a significant difference among the respondents with different place of usual residence at 0.01 significance level. As reported in Table 5.1, the respondents whose place of usual residence was Hong Kong or Mainland would like to use 'gentle competitive' and 'cooperative' to describe the relationship between HKIA and SBIA. On the other hand, much fewer respondents from other place of usual residence used 'gently competitive' to describe the relationship. Instead, many of them described the relationship as 'no relation' or they had 'no comment' on this issue, as they seldom used the two airports and were not familiar with them.

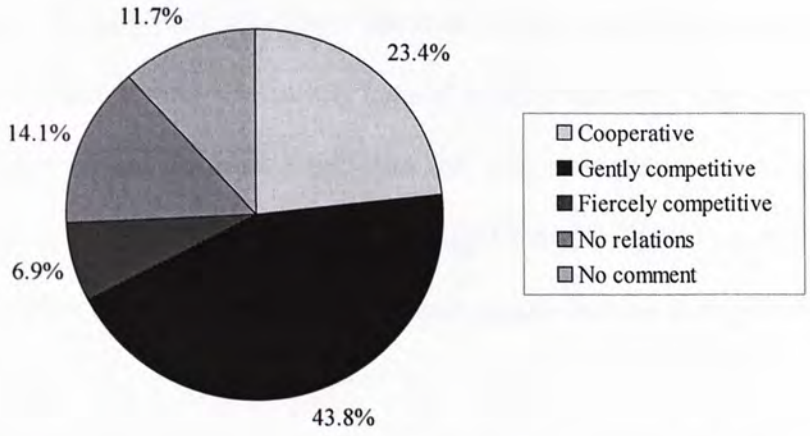

Figure 5.1 The relationship between HKIA and SBIA by the respondents from different place of usual residence
Note: 'No comment' refers to no choice from the respondents.

Table 5.1 Description on the relationship between HKIA and SBIA by the respondents from different place of usual residence

Choice	Place of usual residence		
	Hong Kong (%)	Mainland China (%)	Others (%)
Cooperative	20.67	23.81	25.79
Gentle competitive	50.96	48.81	27.89
Fierce competitive	9.13	5.56	5.79
No relations	11.06	12.30	20.00
No comment	8.17	9.52	20.53

Source: Author's survey

Moreover, as shown in Figure 5.2, most of the respondents (64.2%) believed that HKIA and SBIA 'Definitely can' and 'Can' benefit from each other. However, the respondents from different place of usual residence showed a significant difference on their opinions according to Chi-square test. According to Table 5.2, respondents whose place of usual residence was Hong Kong were

more likely to express their opinions with a low percentage of the choice of 'no comment'. Nevertheless, they were the group that had a higher percentage in the combined choices of 'Cannot' and 'Definitely cannot' in their answers. This may be explained by the obvious difference between the real strength of the two airports. As HKIA is better than SBIA in terms of flight network, hardware and software, the respondents may think that HKIA cannot receive benefit from SBIA in this situation.

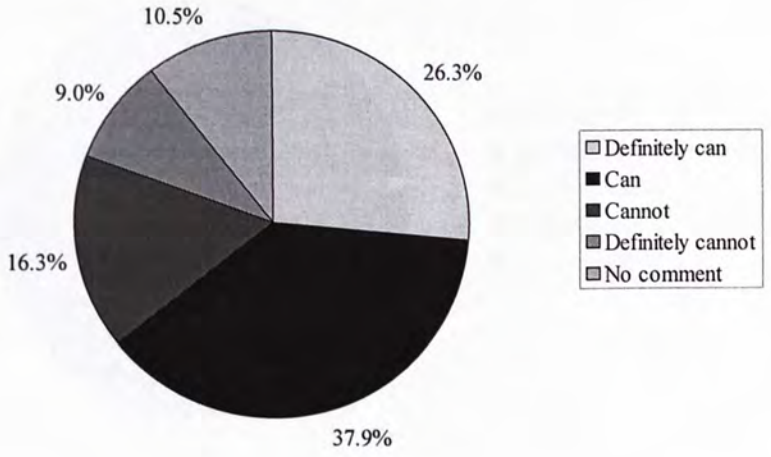

Figure 5.2 Different public responses to the question 'Do you think that HKIA and SBIA can benefit from each other?'

Table 5.2 Opinions on the question 'Do you think HKIA and SBIA can benefit from each other?' by respondents from different place of usual residence

Choice	Place of usual residence		
	Hong Kong (%)	Mainland China (%)	Others (%)
Definitely can	17.14	33.20	27.18
Can	40.00	33.98	40.00
Cannot	23.81	13.90	12.82
Definitely cannot	11.90	6.18	8.72
No comment	7.14	12.74	11.28

Source: Author's survey

About 60.5 percent of respondents were very satisfied and satisfied with the current relationship of these two airports (Figure 5.3). This result matches with the result in Figure 5.1, which showed that most of the respondents were satisfied with the fine relationship between the Hong Kong and Shenzhen airports. However, the high percentages of 'no relation' (13.8%) in Figure 5.1 and 'no comment' (16.3%) in Figure 5.3 revealed that some respondents might not be concerned about this issue.

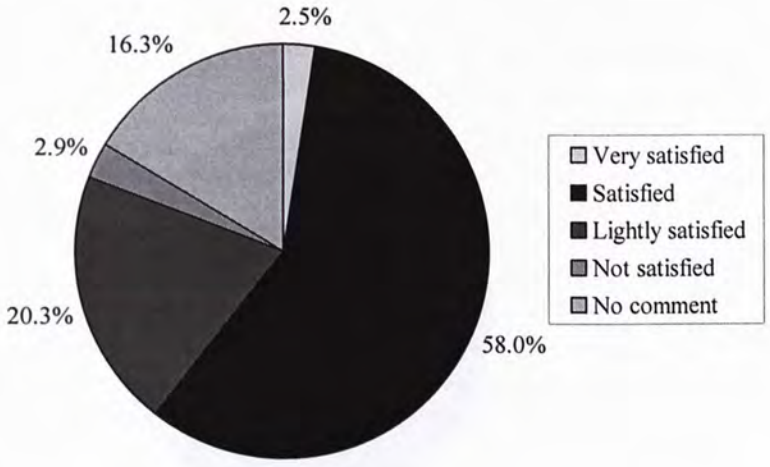

Figure 5.3 The satisfaction with current relationship between HKIA and SBIA

Furthermore, the data showed that the respondents were supportive of cooperation between the two airports. Figure 5.4 showed that 62.5 percent of respondents supported the plan for HKIA to own some shares of SBIA. In addition, majority of the respondents (70.7%) believed that the two city governments should assist the cooperation between the two airports (Figure 5.5). There were some reasons for the respondents' choices. For those who chose 'Definitely' and 'Possibly' in this question, most of them believed that it is a win-win situation for the two airports, and it would be beneficial to both regions and the passengers. However, some respondents thought that the two

governments should not assist the cooperation between the two airports. They thought that the government could only act as an advisor and could not directly involve in the airport operation. Based on the 'One country, two systems' policy, there should be separate policies for the airport operation in the two different regions. Regardless of the assistance to the cooperation between the two airports, most respondents agreed that the two governments should provide more convenient transport links between HKIA and SBIA (80.6%), as shown in Figure 5.6.

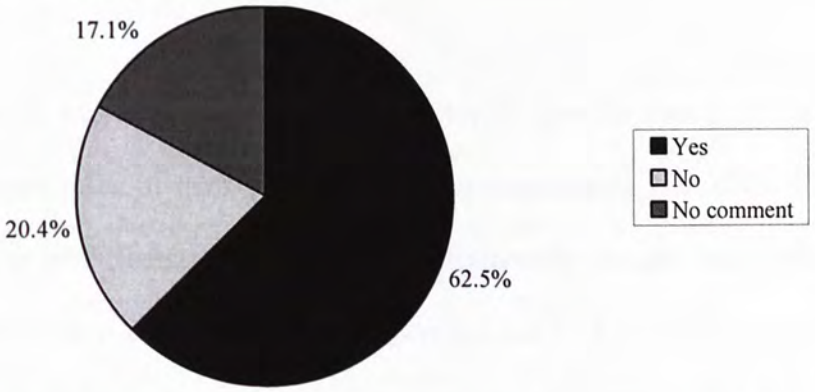

Figure 5.4 Different public responses to the question 'Do you support the plan for HKIA to own some shares of SBIA?'

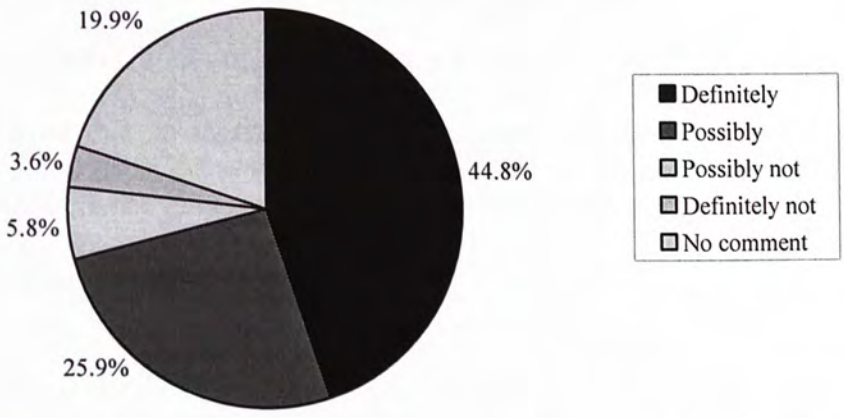

Figure 5.5 Different public responses to the question 'Do you think that the two governments should assist the cooperation between the two airports?'

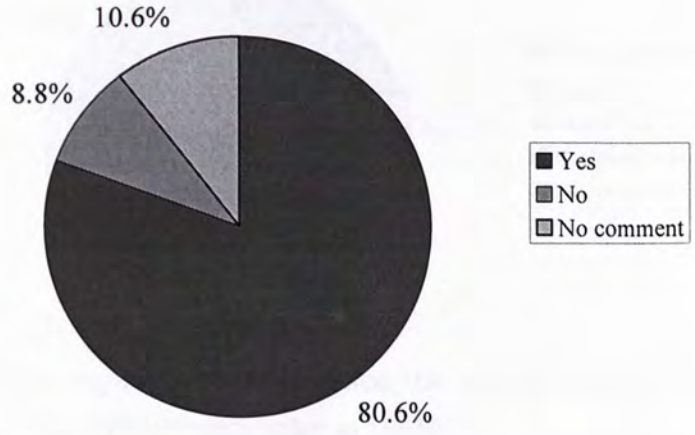

Figure 5.6 Different public responses to the question 'Do you think that more convenient transport links should be provided between HKIA and SBIA?'

Moreover, a majority of respondents believed that the two governments should play more roles in their own airport. The respondents who claimed that the Hong Kong and Shenzhen governments 'Extremely should' and "Should' play more role in their own airport is 74.6 percent and 73.8 percent respectively (Figure 5.7 and Figure 5.8). If the two airports cooperate with each other, the respondents perceived that there would be two extreme outcomes for the passengers. A majority of respondents thought that better services, more convenient transport, decreased air-ticket fares and more choices would be resulted. On the other hand, some of the respondents had a completely different opinion. They believed that an increase in air-ticket fare, reduced choices and monopoly would occur. Some may even consider switching from using the Hong Kong airport to the Shenzhen airport.

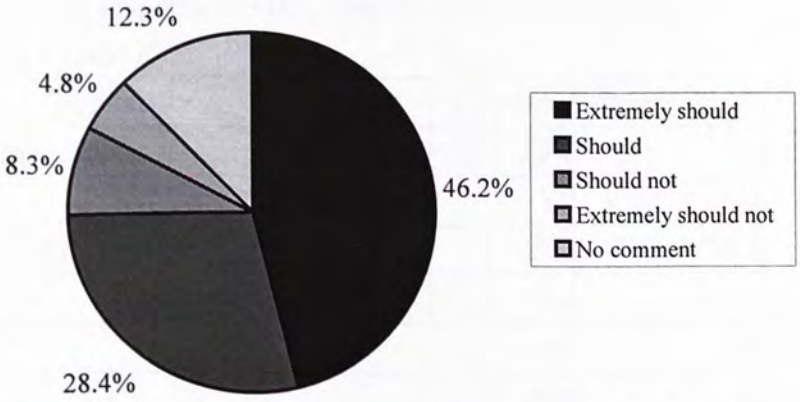

Figure 5.7 Different public responses to the question 'Do you think that the Hong Kong SAR Government should play more roles in HKIA?'

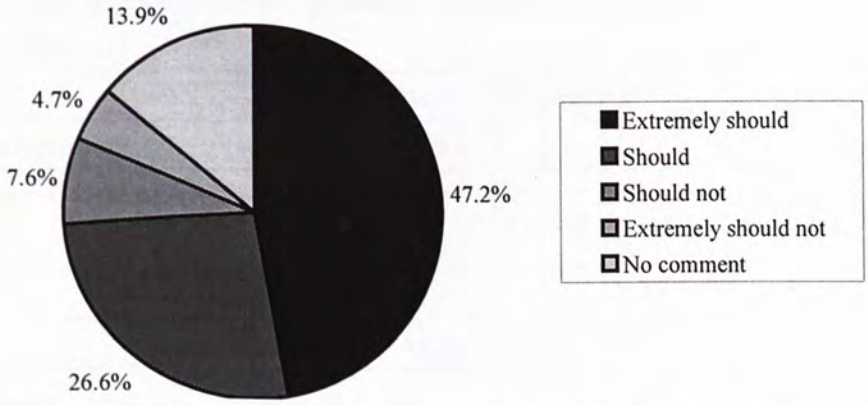

Figure 5.8 Different public responses to the question 'Do you think that the Shenzhen Municipal Government should play more roles in SBIA?'

It seems that the respondents were most likely to express their viewpoints on the issue of the two airports. However, their awareness of the airport issue was not adequate. There were only 28.5 percent of respondents got the correct answer for the question 'Do you think who the owner of the Hong Kong airport is?' and 21.4 percent of respondents answered correctly for the question 'Do you think who the owner of the Shenzhen airport is?' (Table 5.3 and Table 5.4). Moreover, the high percentage of the answer 'No idea' in both questions also revealed a low public awareness on the airport issue.

Table 5.3 Different public responses to the question 'Do you know who the owner of Hong Kong airport is?'

Choice	Number	Percentage
The PRC Central Government	36	7.4
Hong Kong citizen	31	6.4
The Hong Kong SAR Government	138	**28.5**
No idea	134	27.7
Others	145	30
TOTAL	484	100

Source: Author's survey

Table 5.4 Different public responses to the question 'Do you know who the owner of Shenzhen airport is?'

Choice	Number	Percentage
The PRC Central Government	116	24.1
The Shenzhen Municipal Government	103	**21.4**
No idea	150	31.1
Others	113	23.4
TOTAL	482	100

Source: Author's survey

It seems that most of the respondents perceived that there is a cooperative relationship between HKIA and SBIA. Moreover, a majority of respondents supported HKIA to own some share of SBIA, and agreed that both governments should assist the cooperation between the two airports. However, this inclination was different from the views of Hong Kong airlines which mainly providing service between Hong Kong and Mainland.

According to the responses of Hong Kong Dragon Airlines Ltd., it would be more beneficial for HKIA to invest in Hong Kong, instead of integrating with SBIA.

"Due to concern on factors including travel time, distance and convenience, the idea of HKIA and SBIA integration may not be able to help attract more passengers to travel via HKIA. Moreover, the lower domestic fare offered by Mainland carriers in SBIA may shift the price sensitive passengers, who are currently using HKIA, to SBIA."

(Interviewed on 29 June 2004, Dragonair)

This view was supported partly by the survey findings. As pointed out before, the passengers with lower monthly income were more sensitive to the flight cost than those passengers with higher monthly income. Hence, if the integration of the two airports occurs, it is likely that more Hong Kong residents may switch to use SBIA for destinations in Mainland China, especially for those with lower monthly income. There would reduce revenue substantially for both the Hong Kong and Mainland carriers, which currently offer the flights between Hong Kong and Mainland. Hong Kong carriers will bear the most cost. Mainland carriers are able to cover certain amount of revenue reduction, as they also operate in SBIA and possess a large domestic market. The case of international air service may be different, as HKIA currently offers much more flights than SBIA. It will take a long time for SBIA to be able to offer many international services. However, as Dragonair mainly offers flights between Hong Kong and mainland, it is likely to suffer. Dragonair suggested that it would be more favorable for the Hong Kong airport to invest and strengthen its own competitiveness, such as reducing the airport charges in order to attract more carriers to operate in Hong Kong and make Hong Kong as a main transportation hub in the world.

Regrettably, China Southern (Group) Shenzhen Branch and Shenzhen Airline Company Limited treated their opinions as strictly confidential and did not like to provide any opinions, which makes it difficult to provide a systematic analysis. However, their position can be inferred on the basis of another issue. The program named 'Fly via Hong Kong' was promoted and launched in July 2004 by Airport Authority Hong Kong (AAHK) and SBIA. It is anticipated that it would attract an extra of 0.2 million passengers to use SBIA until December 2004. In this type of cooperation between the two airports, most airlines in SBIA can benefit due to an increase in passenger travel and revenue as well. Hence, it can be expected that most of the airlines in SBIA would support with the plan for more cooperation between HKIA and SBIA that will definitely benefit them.

For AAHK, its ultimate goal is to facilitate the efficient and speedy movement of people and goods between the GPRD region and the rest of the world with the shortest time, the least cost and the highest reliability. By achieving this goal, the passenger and cargo market of the GPRD region can be enlarged, hence bringing prosperous to the entire GPRD region.

"There are lots of demands from GPRD passengers, as the GPRD region has large population and vibrant economy that can facilitate further growth in the future. Hence, HKIA and SBIA can cooperate to develop more flights with more new destinations, in order to enlarge the market."

(Interviewed on 26 July 2004, HKAA)

Therefore, if HKIA develops a strategic link with SBIA, it would be acted as a mean to achieve the goal. It can also help HKIA to have a strong and

extended home market, as everybody knows that basing on Hong Kong market alone cannot sustain HKIA's success. Expanding the network and establishing better connection with the PRD region would be an optimal option for future growth.

Shenzhen Airport (Group) Company Limited also supports the plan for further cooperation between HKIA and SBIA. By better utilization of well-developed international network of HKIA and better access to mainland cities of SBIA, a win-win outcome can be obtained. In addition, with the opening of the Guangzhou Baiyun International Airport (GBIA) in August 2004, its improved infrastructure sharing a similar passenger and cargo markets already posed a challenge to SBIA. Hence, a better relationship with HKIA can reduce the impact of fierce competition with GBIA in the future.

A scholar from the Center for Studies of Hong Kong, Macau and PRD at Zhongshan University also shared similar opinions on the five airports in the GPRD region in a macro scale. He further pointed out that the cooperation of the airports is not easy to achieve if it only depends on the government arrangement. It is necessary to achieve the cooperation by means of market forces such as to hold a stake from each other. This can smooth the operation process and distribute the benefits efficiently.

"Through the cooperation of the five airports, the competitiveness of the whole region will be enhanced and the cake (market) can also be enlarged. Although, the share of HKIA may not be as large as before after cooperation, however the piece of cake for HKIA must be larger when the whole cake is

enlarged by the efforts from the five airports in the region."

(Interviewed on 15 October 2004, Zhongshan University)

This is what the scholar called 'Cake theory'. According to the scholar's analysis, there will be a demand for domestic travel when a country's GDP per capita reaches above US$1,000. When GDP per capita is above US$3,000, there will be a demand for international travel in the market. Nowadays, the GDP per capita of Guangzhou and Shenzhen are about US$5,000. Thus, it already can generate a lot of international travel even in these two regions. In addition, it is estimated that by 2010, the demand for international travel will reach 0.1 billion in China. Hence, the aviation industry in the GPRD region has enormous potential that cannot be monopolized by HKIA. The scholar encouraged the cooperation not only between HKIA and SBIA, but also between HKIA and GBIA. As the home market of SBIA and GBIA is similar, it is possible for HKIA to cooperate with both two airports. This move can create better future opportunities for HKIA development.

After reviewing the opinions and suggestions from passengers, airlines, airport authorities and a scholar on the GPRD region's airports, some cooperation measures will be proposed in the next section for HKIA and SBIA respectively that will be beneficial to the entire aviation industry in the region.

5.3 Recommendations for HKIA and SBIA

Nowadays, the air transport competition in the GPRD region has become more and more intense. The extraordinary growth of the Mainland airports is a challenge to HKIA that has been Asia's premier aviation center. HKIA is facing new competition from other airport hubs in close proximity and from emerging new airports in Mainland. On the other hand, HKIA's nearby airport, SBIA, will also confronts a lots of challenges in the coming years, as GBIA already opened in 2004 and the Hong Kong-Zhuhai-Macau Bridge will be built in the near future. Hence, HKIA has to figure out how to consolidate the position of Hong Kong as an aviation leader and SBIA also need to be prepared for the coming challenges.

In the following paragraphs, following recommendations are proposed for the cooperation of the two airports. They include strategic alliance between HKIA and SBIA, cooperation with other three airports in the GPRD region, code sharing between Dragonair and other Shenzhen's airlines, and some special suggestions for individual airports.

There is close relationship between Hong Kong and Shenzhen geographically and economically. In addition to the short distance between them, they have also been close economic partners in the past 20 years. In addition, the extensive international network of HKIA and well-developed and enormous potential of domestic network of SBIA make them more perfect alliance partners than any other airports in the GPRD region. If a strategic alliance implement between HKIA and SBIA, both airports will buy a stake in each other and will perform a functional specialization. HKIA will concentrate in developing the oversea network, while SBIA will mainly developing in flights among the

Mainland market. Moreover, it will able to remove the regulatory obstacles impeding the smooth flow of passengers between the two airports. According to the previous analysis, most stakeholders supported the cooperation and alliance between HKIA and SBIA (Except for the Hong Kong airlines that mainly provide services to Mainland, which will be addressed later). However, how should the two airports facilitate this kind of cooperation and when is the optimum time for the implementation?

As mentioned in Chapter 2, there are mainly two kinds of integration namely functional and institutional integration, which are directed by market and governance system respectively. In this case of alliance between HKIA and SBIA, both types of integration are needed to make it happen. This strategic alliance will be induced mainly by several market forces: the staggering progress of the mainland airports posing challenges to HKIA, the opening of GBIA and the Hong Kong-Zhuhai-Macau Bridge posing challenges to SBIA, and the potential advantages of both airports mentioned before. Nevertheless, the presence of the autonomous market forces is not effective alone, as Hong Kong and Shenzhen belong to different administrative systems. Hence, institutional integration with the involvement of government is also needed.

As the civil servants of Hong Kong have different educational and cultural background from the Shenzhen officers, their different perception and attitude to address a problem always hinder the cooperation between the two counterparts. Hence, the cooperation procedures should be carried out in steps. Firstly, the two governments and the two airport authorities should organize more conferences and seminars to facilitate the exchange of experiences and knowledge between

the two airports. Then, after building up trust between the related authorities, a cross border institute should be established with the participation of related government officers, senior staffs of both airport authorities and scholars who study airport governance. Through the establishment of this institute, more cooperation opportunities can be discussed to further enhance the progress of alliance. For example, setting up one-stop clearance system in key mainland cities will shorten clearance times for mainland passengers flying to international destinations via HKIA and SBIA.

For the time of forming strategic alliance, it is suggested to be implemented one or two years after privatization of AAHK. According to a government report in 2004, Hong Kong government planned to privatize AAHK in 2006. Thus the suggested time to implement the strategic alliance is between 2008 and 2009. The proposed privatization would further strengthen the competitiveness of HKIA and subject the airport to operate under even stronger commercial discipline. It will also introduce an additional quality company to the stock market, which allows Hong Kong people to hold shares in the most successful airport in the world. More importantly, the privatization of AAHK will bring more capital revenue to the Hong Kong government in foreseeable future. Therefore, the period between 2008 and 2009 seemed like to be the perfect time for HKIA to form an alliance with SBIA with a strong position and after building trust among the related authorities. As HKIA has more power to bargain than SBIA, SBIA should try to match the plan of HKIA.

Nevertheless, the cooperation of HKIA and SBIA with other three airports in the GPRD region should not be neglected. Actually, the five international

airports in the GPRD region would not necessarily lead to destructive competition, if all the related authorities can come together to discuss and find a suitable position for all the five airports. For instance, HKIA can act as a passage to international cities in the GPRD region and connect with other four domestic airports to form a radial network. In this case, the A5 Forum that has been established can provide an important platform for discussion. All the five airports should make better use of the A5 Forum to discuss how to reduce fierce competition among them and how to increase both passengers and cargo traffic that could be shared by them in the future.

As suggested by the scholar from Zhongshan University, HKIA should not only cooperate with SBIA, but also with GBIA to form a strong-strong alliance relationship. This is definitely suitable for the long-term development of both airports. However, GBIA was just opened in 2004 with better facilities and improved capacity. It gained a lot of momentum after the opening. Thus the market force for cooperation is different from those between HKIA and SBIA. Hence, the level of cooperation between GBIA and HKIA would not attain the level of forming a strategic alliance between them in the near future.

Given the chance of cooperation between the HKIA and SBIA, the cooperation of the major airlines in both cities is also crucial to the success of the aviation industry development. As stated in Chapter 3, Shenzhen's airlines offer much cheaper domestic air-tickets than Hong Kong's airlines, especially when they make heavily discounted special offer to passengers. Hence, if strategic alliance between HKIA and SBIA is implemented, the airlines operating flights between Hong Kong and mainland including Dragonair, China Eastern, Air

China and China Southern will be severely affected, especially the Hong Kong carrier, Dragonair. Therefore, code sharing cooperation between Dragonair and other Shenzhen's airlines would be a solution to the problem.

By using a code sharing method, Dragonair's passengers will have access to extensive domestic destinations of the code-shared Shenzhen's airlines through displaying their flight numbers or vice versa. It means that both airlines can gain exposure in the market even though they do not operate their own aircraft on a given route. Both airlines can fulfill their own mutual benefits with each other. For instance, Dragonair can enjoy the relatively low price in maintenance and training cost, while Shenzhen's airlines can benefit from Dragonair's advertising campaigns. Moreover, passengers will be able to benefit from greatly increased number of flights and enjoy frequent flyer programs of both airlines. The two airlines can also take advantage of the programs by lock-in the passengers and preventing them from switching to other competing airlines. Nevertheless, it is only a method suggested to address the problem of cooperation between airlines. The details of the implementation would not be further discussed here.

As mentioned earlier, HKIA and SBIA both have their own comparative strengths. Comfort and modern facilities, excellent ground transportation, excellent staff service, efficient and seamless custom process as well as the well-developed flight network, already made HKIA to be recognized as the best airport in the world. Compared with the mainland airports, the relatively higher cost of air-tickets means that HKIA and its airlines still have rooms to improve. However, if strategic alliance really implement between HKIA and SBIA, the cost reduction of domestic air-ticket would not be the urgent issue to be

addressed. Indeed, to further develop HKIA's strength, more low-cost international airlines can be invited to offer services in HKIA to expand Hong Kong's global aviation network.

By introducing low-cost international airlines into the aviation market, price competition would increase efficiency incentives for the airlines accordingly and lower airfares would be made available for the passengers. Barrett (2004) mentioned that low-cost airlines might not like busy airports. This is because the profitability of the low-cost airlines is based on short turnaround time to achieve better fleet utilization and staff productivity; the congestion for the flight departure in busy airports might reduce their productivity as well as profits. However, HKIA is still attractive for low-cost airlines for other reasons. As the low-cost airlines need to reduce the expenditure by canceling in-flight service, business class, free newspapers, frequent flyer clubs and business lounges, it would need airports with good catering and shopping malls to serve low-cost airline passengers.

Hence, by introducing low-cost airlines to HKIA, there would be a beneficial outcome for all three participants. Firstly, the airport can increase its aeronautical revenues such as landing and ground handling charges, and non-aeronautical revenues from duty-free shops and restaurants. Secondly, the lost-cost airlines can gain a new business opportunity for their development. Thirdly, it would provide lower airfares and diversified services to the aviation market, which may favor the price-sensitive passengers. The only concern is that the lost-cost airlines will exert pressures on the full-service international airlines to reduce costs. There may be competition between the low-cost and full-service

international airlines in HKIA. Nevertheless, this measure can extend the connectivity of the airport that would increase the number of destinations and can further reinforce the competitiveness of HKIA.

By December 2004, there were already five low-cost international airlines operating in HKIA including Australian, Cebu Pacific, Jetstar Asia, Orient Thai and Valuair Airlines. There are a total of 104 flights a week to Southeast Asian and Australian destinations including Bangkok, Cairns, Manila, Phuket and Singapore. In order to extend HKIA's aviation network, AAHK reintroduced the New Destination Incentive Agreement (NDIA) scheme in 2004 to promote HKIA to attract other airlines. Existing and new airlines opening air services to new destinations will be given a 50 percent rebate on landing charge in the first year of operation and a 25 percent rebate in the second year. These incentives can encourage new and existing airlines to connect HKIA with many more new destinations. It is predicted that the growth of low-cost airlines will further increase after privatization of HKIA and market forces will create some competition in the airport at that time.

On the other hand, the strengths of SBIA were more variety of services to destinations in mainland and relatively lower price of air tickets than HKIA. Hence, SBIA should further develop its strength by expanding the domestic market to more cities and increase the frequent of flights. As a result, more mainland passengers from other provinces can travel to SBIA and via HKIA to international destinations. In addition, in order to be an excellent partner with HKIA, it should improve its hardware and software. For example, it should improve Ease of transfer, Passenger facilities, Staff service, Terminal comfort

and Security/immigration by learning from HKIA. Through the establishment of the cross border institute, the knowledge and experiences of HKIA can be transferred to SBIA by conducting training courses periodically. More importantly, SBIA should create more efficient road or sea connections to link between the airport and the Shenzhen city as well as with the rest of the PRD region, which can significantly widen the catchment area for both HKIA and SBIA.

The competitiveness of an airport depends on its facilities, flight costs and services; the governance of an airport is revealed as the most important factor in multi-airport regions, especially in the multiple administrative systems setting in the GPRD region. Besides, the stakeholders involved in the Hong Kong and Shenzhen airports have different views. It would be a complicated process to reach a win-win situation. The findings of this study contribute to a better understanding on the issue of airport cooperation in the GPRD region.

5.4 Summary

Due to closer physical distance between Hong Kong and Shenzhen and more intimate relationship between two city governments, the two airports situated in these two cities also enjoy more cooperation opportunities. While the A5 Forum holds regular meetings for the cooperation of the five GRPD airports, SkyPier marine passenger services and the 'Fly via Hong Kong' program have been launched in HKIA and SBIA since 2003 and 2004 respectively for the cooperation of the two airports.

The long-term cooperation between HKIA and SBIA has also been under consideration by both airport authorities and related government departments. The different opinions on the cooperation between HKIA and SBIA have been discussed in this chapter. But the passengers' opinion on the relationship between the two airports should be noted. As can be seen from Table 5.5, majority of the passengers used 'gentle competitive' to describe the relationship between the two airports, especially those respondents whose place of usual residence was Hong Kong or Mainland. In addition, most of the respondents believed that the two airports could benefit from each other. But relatively fewer respondents whose place of usual residence was Hong Kong believed in this. Nevertheless, majority of the respondents satisfied with the current relationship between the two airports and supported the plan for HKIA to own some shares of SBIA. They mostly agreed that the two governments should assist the cooperation between HKIA and SBIA, and provide more transport links between the two cities. Moreover, most of the respondents believed that the two governments should play more roles in their own airports. However, the respondents' awareness of the airport issue was relatively limited.

Table 5.5 Summary of the respondents' opinions on the relationship between HKIA and SBIA

Questions	Positive	Negative
The relationship between HKIA and SBIA	√	
HKIA and SBIA can benefit from each other	√	
The satisfaction with current relationship between HKIA and SBIA	√	
Support the plan for HKIA to own some shares of SBIA	√	
The two governments should assist the cooperation between HKIA and SBIA	√	
More convenient transport links should be provided between the two cities	√	
The Hong Kong SAR Government should play more role in HKIA	√	
The Shenzhen Municipal Government should play more role in SBIA	√	
Awareness of the airport issue		√

In addition, a strategic alliance between HKIA and SBIA will bring beneficial outcomes to both airports, Shenzhen's airlines, Hong Kong's airlines except the airlines that provide flights between Hong Kong and mainland as well as passengers. Moreover, it can also enhance the aviation industry of the GPRD region in the long run. After the implementation of the strategic alliance, the passenger and cargo services will be distributed efficiently between the airports that will be fully complement with each other. HKIA will mainly provide international services, while SBIA will be concentrated in providing services to mainland destinations. Meanwhile, more efficient and effective connections will be introduced to link the two airports. More passengers will be attracted to use HKIA and SBIA to travel between mainland and cities in the world. Hence, both airports will benefit from the growth in passenger traffic and overcome the difficulties posed by the nearby airports. In addition, the airlines in Hong Kong and Shenzhen (except those providing services between Hong Kong and Shenzhen) will also gain more business as passengers and revenue will be

increased. The more convenient transportation and more choices provided by two airports will bring advantages to passengers. In the long term, the more rational distribution of traffic will be favorable for the aviation development of the whole GPRD region as the cake will be enlarged by the efforts of the involved parties.

Several recommendations have been made for HKIA and SBIA. For instance, the two governments should facilitate the cooperation between the two airports by organizing more conferences and seminars, and a strategic alliance should be formed in the near future. Nevertheless, the A5 Forum should also be promoted actively. In addition, some suggestions have also been made for individual airports.

Chapter 6

CONCLUSION

6.1 Major Findings

Hong Kong and Shenzhen have two major airports in the GPRD region those serve the residents in both cities as well as their surrounding areas. The cooperation and competition between the two airports have become important issues. This research has attempted to contribute to a greater understanding in the relationship and cooperation between HKIA and SBIA. An airport provides both passenger and cargo services. This research focuses on the relationship between HKIA and SBIA in terms of passenger services. A different set of stakeholders is involved in cargo services that will be an interesting topic in further research.

According to previous studies reviewed in this thesis, there are close relationships among airports, passengers and airlines. The thesis first examines the development and relationship between HKIA and SBIA. In the second stage of the research, information is collected from a variety of sources by conducting questionnaire survey of passengers and several interviews. Detailed first-hand data are then analyzed and interpreted regarding the strength and weakness of HKIA and SBIA, the main factors in the choice of airports, and the relationship between the two airports. Interviews with representatives of airlines, the airport authorities as well as the scholar provides further information and views from various perspectives.

The aviation sector in the GPRD region has expanded extraordinarily in

recent years, especially HKIA and the other two mainland airports, GBIA and SBIA, which ranked 3rd and 4th among 126 civil airports in the mainland. However, if there were no appropriate cooperation, the competitiveness of the whole GPRD region would be weakened as the five airports could not take full advantages of their respective competitive strengths. The airport hub in the Yangtze River Delta Region and other Asian airports such as the Singapore's Changi International Airport may surpass the GRPD's airports in both passenger and cargo traffic. Hence, airports in the GPRD region have adopted certain polices to safeguard their competitiveness. For instance, the A5 Forum was formed by all the five airports. SkyPier marine passenger service and a program named 'Fly via Hong Kong' were introduced between HKIA and SBIA.

Among the five airports in the GPRD region, HKIA and SBIA are most closely interrelated with each other. Due to the close proximity of the two airports and relatively lower ticket prices offered by airlines using SBIA, many Hong Kong residents have chosen to use SBIA to travel to and from various destinations in the mainland instead of HKIA. On the other hand, many mainland residents have also been attracted to travel from their own cities to SBIA, then via HKIA to various cities in the world and vice versa. This phenomenon revealed a kind of interaction in terms of passenger traffic between the two airports. The outcome of this interaction may be driven to a win-win situation or excessive competition, which mainly depends on the policies of the two airport authorities and the related governmental departments.

The two airports can be classified into two types according to their number of international and domestic destinations. HKIA provides services to 140 cities,

of which 98 cities are oversea cities. Hence, it is an international airport mainly providing services to various cities in the world. SBIA provides services to 83 cities, of which only 10 are oversea cities. Therefore, it is an airport mainly providing mainland services.

Owing to 'One Country, Two Systems' policy, the Hong Kong government has full autonomy and flexibility in governing its own aviation industry. It is independent from Civil Aviation Administration of China (CAAC) while the mainland airports have to follow the order of CAAC. Moreover, Hong Kong is a world city and a financial and economic center. It attracts many international airlines and has become a global aviation center. Hence, HKIA offers many international flights. Due to excellent management of the airport, HKIA was selected as the World's Best Airport for four consecutive years of 2000-2004 by Skytrax. In 2003, it handled 2.64 million tonnes of cargo and 27.43 million passengers.

On the other hand, SBIA is located near HKIA with a lower carrying capacity in both cargo and passenger transportation. Under the rule of CAAC, SBIA has its comparative strength in offering flight services to many mainland destinations. It was the fourth largest airport among 126 mainland airports. SBIA handled 10.8 million passengers and 0.35 million tonnes of cargo in 2003.

The thesis conducted a through review of the development of the two airports; it is found that HKIA has better hardware and software than SBIA such as the size of the airport and cargo terminals, the number of aircrafts stands, and the facilities in passenger terminal. This is confirmed by findings from the

questionnaire survey of passengers. The respondents perceived that HKIA is better than SBIA do in following criteria including Accessibility, Ground transportation, Ease of transfer, Passenger facilities, Staff service, Terminal comfort, Security/immigration, Variety of airlines, Variety of service to international destinations, Airport tax, and Cost of air-ticket to international destinations.

Nevertheless, attractiveness of SBIA should not be overlooked. According to the comparison of the air-ticket price offered by the home carriers of both airports for mainland destinations, the economy class of HKIA's home carrier was even more expensive than the business class of SBIA's home carrier. The result was the same if the price for comparison is based on a travel agency. Hence, the lower ticket price certainly attracted a number of passengers to use SBIA instead of HKIA, especially those price-sensitive passengers. In addition, the financial performance of SBIA was stronger than HKIA in 2003. During the SARS-affected period, SBIA still got double-digit growth in the items of turnover and profit from ordinary activities after taxation, while HKIA got a negative growth rates in these items.

A questionnaire survey of passengers was conducted in the peak travel period – July and August in 2004. A total of 838 questionnaires were distributed and 725 were returned with an overall response rate of 86.5 percent. Statistical methods such as Chi-square testing are used in the data analysis to test the different evaluation on the two airports by passengers using SPSS.

It is important to know what are the strengths and weaknesses of the two

airports from the passenger perspective when consider the relationship between two airports and for further improvement. The survey data is used to examine how the respondents evaluate the two airports in four main aspects – variety of airlines and services, cost of air-tickets, hardware and software of the airports. It is revealed that the respondents generally had a more positive impression of HKIA than SBIA especially in some criteria such as Variety of service to international destinations, Passenger facilities and Terminal comfort. However, respondents perceived that some criteria on HKIA are poorer than SBIA such as Variety of service to destinations in Mainland China and Cost of air-ticket to Mainland China. Overall, 81.4 percent of respondents perceived HKIA as 'very good' or 'good' while only 35.2 percent of respondents perceived SBIA as 'very good' or 'good'. Chi-square test is used to test statistically the difference between the two airports. All the criteria show a significant difference between the rating on HKIA and SBIA at 0.01 significance level. HKIA was better than SBIA in 12 of 14 criteria, except on Variety of service to destinations in Mainland China and Cost of air-ticket to Mainland China. Interesting, the respondents whose place of usual residence was Hong Kong or Mainland tended to give a higher rating on their own airport than non-residents. The tendency to give a higher rating on the airport that located in the place of usual residence is mainly due to place identity. This means that respondents generally had a more positive attitude to their place than other places. But all three groups of respondents still perceived that HKIA is better than SBIA.

The questionnaire survey also studied the main factors in choosing an airport for travel. These factors have important implications on the relationship between two airports. They also provide clue to airports on how to attract

passengers to increase their revenue. The result revealed that Accessibility to an airport, Time to an airport and Flight cost are the three most important factors in passengers' choice of an airport. There is a correlation between the perception of flight cost and the monthly income of the passengers. The passengers with lower monthly income were more sensitive to the flight costs than those passengers with higher monthly income.

The direct road or sea connections between HKIA and SBIA as well as those traveling between the airports with the nearby cities provide good network services for the passengers. This research also assessed sea and land services in the two airports. According to the questionnaire survey, more respondents perceived that HKIA's road or sea connections are better than those in SBIA, especially on the criteria of Safety, Convenience and Speed. The safety criterion even shows a significant difference between the rating on HKIA and SBIA at 0.01 significance level. It is clear that there is room for improvement in safety and security issues of the road and sea connections of SBIA.

Improving the road and sea connections between HKIA and the nearby mainland cities, and the road and sea connections between SBIA and the remaining mainland cities as well as Hong Kong SAR, would definitely increase the traffic volume of both airports. Moreover, the relatively higher ticket prices offered by HKIA can be solved by attracting more low-cost international airlines that is one of the recommendations stated below.

Most respondents in the survey perceived that a relative fine relationship existed between the two airports. About 60.5 percent of respondents were

satisfied with the current relationship of these two airports. Most of the respondents (64.3%) believed that HKIA and SBIA 'extremely can' and 'can' benefit from each other. But respondents whose place of usual residence was Hong Kong were more likely to pick up the choices that two airports 'cannot' and 'extremely cannot' benefit from each other in their answers. As HKIA is better than SBIA in terms of flight network, hardware and software, the respondents may think that HKIA cannot receive benefit from SBIA in this situation. The respondents were supportive of cooperation between the two airports. About 62.5 percent of respondents supported the plan for HKIA to own some shares of SBIA. In addition, majority of the respondents (70.7%) believed that the two city governments should assist the cooperation between the two airports. However, this was different from the responses of Hong Kong Dragon Airlines Ltd., which argued that it would be more beneficial for HKIA to invest in Hong Kong, instead of integrating with SBIA.

Comparatively speaking, the cooperation projects between HKIA and SBIA were a more comprehensive type than those among the remaining airports. There are two reasons for this: 1) the close relationship between Hong Kong and Shenzhen, and 2) the two airports are relatively suitable for further cooperation. According to the opinions from passengers, airlines, airport authorities and a GPRD region's airport scholar, most of them supported the idea of forming a strategic alliance between these two airports, except the airlines that mainly provide service between Hong Kong and mainland.

In conclusion, the competitiveness of an airport depends on its facilities, flight cost and services. The governance of an airport is revealed as the most

important factor in multi-airport regions, especially in the multiple administrative systems setting in the GPRD region. Besides, the stakeholders involved in the Hong Kong and Shenzhen airports have different views. It would be a complicated process to reach a win-win situation. The findings of this study contribute to a better understanding on the issue of airport cooperation in the GPRD region.

6.2 Policy Implications

According to synthesis of all data and information available, a strategic alliance between HKIA and SBIA will bring beneficial outcomes to both airports, Shenzhen's airlines, Hong Kong's airlines except the airlines that provide flights between Hong Kong and mainland as well as passengers. Moreover, it can also enhance the aviation industry of the GPRD region in the long run. After the implementation of the strategic alliance, the passenger and cargo transport will be distributed efficiently between the airports that will fully complement each other. HKIA will mainly provide international services, while SBIA will be concentrated on providing services to mainland cities. Meanwhile, more efficient and effective connections will be introduced to link the two airports. More passengers will be attracted to use HKIA and SBIA to travel between mainland and various cities in the world. Hence, both airports will be benefit from the growth in passenger traffic and overcome the difficulties posed by the nearby airports. In addition, the airlines in Hong Kong and Shenzhen (except those providing services between Hong Kong and Shenzhen) will also gaining more business as passenger number increases that in turn will increase their revenue. The more convenient traffic and more choices provided will bring advantages to the passengers. In the long term, the more rational distribution of traffic will be favorable for the development of the whole aviation industry in the GPRD region as the cake will be enlarged by joint efforts by the involved parties.

It seems that developing a strategic alliance will be favorable for most parties, but it would not be for every party. The Hong Kong's airlines that mainly provide services between Hong Kong and mainland such as Dragonair may suffer from this type of cooperation. As mentioned earlier, if a strategic alliance

is implemented between HKIA and SBIA, better road and sea connections will be introduced. More passengers from Hong Kong will choose to fly to mainland via SBIA, which will attract price-sensitive passengers. Code sharing would be an answer to the problem. Through code sharing, Dragonair and the other Shenzhen's airlines would have an opportunity to widen their own market by displaying their flight numbers on each other's flight.

To ensure smooth implementation of strategic alliance between HKIA and SBIA, a number of recommendations have been made for both airports. For instance, 1) in spite of the market forces, both Hong Kong and Shenzhen governments should be actively involved in promoting the cooperation between the two airports. 2) The cooperation should be carried out according to the step by step procedure. More conferences and seminars should be held and a cross border institution should be established to facilitate more communication opportunities. 3) A strategic alliance should be implemented one or two years after the privatization of AAHK. Expected better operation of AAHK when it works under stronger business discipline, will produce a marked effect on the cooperation with SBIA. 4) The cooperation of the five airports in the GPRD region needs further promotion by the involved parties and the A5 Forum should be much better utilized by them. 5) Low-cost international airlines should be introduced to the aviation market of HKIA. Then services to more destinations will be made available for passengers and that in turn will increase the traffic volume. 6) SBIA should improve its hardware and software, and most importantly it should extend its linkage with other cities in the PRD region in order to attract more passengers to travel by both airports.

6.3 Suggestions for Further Research

This research has attempted to contribute to a greater understanding in the relationship between HKIA and SBIA as well as the different opinions among the major players in the issue, especially from the passengers' perspective. Future research may be suggested to study the air cargo perspective of HKIA and SBIA. It may also be suggested to study the development and relationship of other airports in the GPRD region to have a complete picture of the aviation industry in the GPRD region.

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APPENDIX I

The Competitiveness and Development Trend of Hong Kong and Shenzhen Airports Questionnaire Survey

In order to know more about the competitiveness and development trend of Hong Kong International Airport and Shenzhen Baoan International Airport, this anonymous survey is being conducted for thesis research in The Geography and Resource Management Department of Chinese University of Hong Kong.

Part I

1. Where is the origin of your trip? _____

2. Where is your trip destination? _____

3. How many times did you travel between Hong Kong and Mainland China by plane in 2003? _____

4. In 2003, how many times did you use the Hong Kong and Shenzhen airports go to Mainland China?

Hong Kong:	0	1	2	3	4	5-9	10+
Shenzhen:	0	1	2	3	4	5-9	10+

5. How many times did you use the Hong Kong and Shenzhen airports go to Mainland China before?

Hong Kong:	0	1	2	3	4	5-9	10+
Shenzhen:	0	1	2	3	4	5-9	10+

6. How do you rate the Hong Kong and Shenzhen airports in each of the following criteria?

		Hong Kong airport					Shenzhen airport				
		Very good				Very poor	Very good				Very poor
1.	Accessibility (Location)	1	2	3	4	N	1	2	3	4	N
2.	Ground Transportation	1	2	3	4	N	1	2	3	4	N
3.	Ease of Transfer	1	2	3	4	N	1	2	3	4	N
4.	Passenger Facilities	1	2	3	4	N	1	2	3	4	N
5.	Staff Service – Staff Availability	1	2	3	4	N	1	2	3	4	N
6.	Terminal Comfort	1	2	3	4	N	1	2	3	4	N
7.	Security/Immigration	1	2	3	4	N	1	2	3	4	N
8.	Variety of airlines	1	2	3	4	N	1	2	3	4	N
9.	Variety of service to international destinations	1	2	3	4	N	1	2	3	4	N
10.	Variety of service to destinations in Mainland China	1	2	3	4	N	1	2	3	4	N
11.	Airport tax	1	2	3	4	N	1	2	3	4	N
12.	Cost of air-ticket to Mainland China	1	2	3	4	N	1	2	3	4	N
13.	Cost of air-ticket to international destinations	1	2	3	4	N	1	2	3	4	N
14.	Overall Satisfaction	1	2	3	4	N	1	2	3	4	N

7. What is your main factor when you choose your airport for travel when the flight to your destination is available in two airports?
(1 = The most important; 5 = The least important)

1.	Accessibility to airport (Location)	1	2	3	4	5
2.	Time to airport	1	2	3	4	5
3.	Flight cost	1	2	3	4	5
4.	Service quality of airport	1	2	3	4	5
5.	Service quality of airline	1	2	3	4	5

If interviewee has used the land/sea transport travel between the Hong Kong airport and the mainland cities, please answer Part II (8-9 questions)
If interviewee has used the Shenzhen airport, please answer Part III (10-12 questions)

Part II

8. Do you think the land/sea connections between the Hong Kong airport and the mainland cities are Enough or not? Enough ☐ Not Enough ☐

If not enough, please explain: _____

_____

9. How do you rate the land/sea connections between the Hong Kong airport and the mainland cities?

		Very good			Very poor
a.	Accessibility (Location)	1	2	3	4
b.	Safety	1	2	3	4
c.	Number of Flights	1	2	3	4
d.	Price	1	2	3	4
e.	Convenience	1	2	3	4
f.	Speed	1	2	3	4
i.	Overall Satisfaction	1	2	3	4

Part III

10. Where did you usually travel to the Shenzhen airport? _____

11. How did you get to the Shenzhen airport?
Train ☐ Bus ☐ Taxi ☐ Ferry ☐ Airplane ☐

12. How do you rate the land/sea connections between the Shenzhen airport and Hong Kong as well as other mainland cities?

		Very good			Very poor
a.	Accessibility (Location)	1	2	3	4
b.	Safety	1	2	3	4
c.	Number of Flights	1	2	3	4
d.	Price	1	2	3	4
e.	Convenience	1	2	3	4
f.	Speed	1	2	3	4
i.	Overall Satisfaction	1	2	3	4

Part IV

13. How do you describe the relationship between the Hong Kong and Shenzhen airports?

Cooperative ☐ Gently Competitive ☐

Fiercely Competitive ☐ No relations ☐

14. Do you think the Hong Kong and Shenzhen airports can benefit from each other? Definitely --- Definitely not 1 2 3 4

15. Do you think more convenient transport links should be provided between the Hong Kong airport and the Shenzhen airport? Yes ☐ No ☐

16. Are you satisfied with the current relationship between the Hong Kong and Shenzhen airports?

Very satisfied ☐ Satisfied ☐ Slightly satisfied ☐ Not satisfied ☐

17. Do you know who the owner of the Hong Kong airport is? _____

18. Do you know who the owner of the Shenzhen airport is? _____

19. Do you think the Hong Kong government should play more roles in the Hong Kong airport? Definitely --- Definitely not 1 2 3 4

20. Do you think the Shenzhen government should play more roles in the Shenzhen airport? Definitely --- Definitely not 1 2 3 4

21. Do you support the plan for the Hong Kong airport to own some shares of the Shenzhen airport? Yes ☐ No ☐

22. How will you be affected, if the two airports cooperate with each other?

_____

_____

23. Do you think the two governments should assist the cooperation between the two airports? Should 1 2 --- 3 4 Should not

Please explain: _____

_____

Part V

24. Sex

Male ☐ Female ☐

25. Place of usual residence

Hong Kong ☐ Mainland China ☐ Others ☐

26. Age

Below 16 ☐
17-34 ☐
35-44 ☐
45-54 ☐
55-64 ☐
Above 64 ☐

27. What is the purpose of most of your travels?

For Business ☐
Visit friends/relatives ☐
Vacation Travel ☐
For Conference ☐
Others: _____

28. Occupation

Managers & administrators ☐
Professionals ☐
Clerks ☐
Service workers & Shop sales workers ☐
Craft & related workers ☐
Plant & machine operators & assemblers ☐
Elementary occupations ☐
Housewives ☐
Students ☐
Retired
Others: _____

29. Personal monthly income

Below HK$4,000	☐	HK$15,000-$19,999	☐
HK$4,000-$6,999	☐	HK$20,000-$24,999	☐
HK$7,000-$9,999	☐	HK$25,000-$29,999	☐
HK$10,000-$14,999	☐	Above HK$30,000	☐

Thank You!

APPENDIX II

Table I-1 Main factor - Accessibility to airport

	Frequency	Percent	Cumulative Percent
The most important	315	43.4	43.4
Important	203	28.0	71.4
Relative important	79	10.9	82.3
Less important	18	2.5	84.8
The least important	14	1.9	86.8
No comment	96	13.2	100.0
Total	725	100.0	

Table I-2 Main factor - Time to airport

	Frequency	Percent	Cumulative Percent
The most important	295	40.7	40.7
Important	224	30.9	71.6
Relative important	79	10.9	82.5
Less important	21	2.9	85.4
The least important	7	1.0	86.3
No comment	99	13.7	100.0
Total	725	100.0	

Table I-3 Main factor - Flight cost

	Frequency	Percent	Cumulative Percent
The most important	283	39.0	39.0
Important	206	28.4	67.4
Relative important	107	14.8	82.2
Less important	23	3.2	85.4
The least important	10	1.4	86.8
No comment	96	13.2	100.0
Total	725	100.0	

Table I-4 Main factor - Service quality of airport

	Frequency	Percent	Cumulative Percent
The most important	181	25.0	25.0
Important	214	29.5	54.5
Relative important	153	21.1	75.6
Less important	47	6.5	82.1
The least important	26	3.6	85.7
No comment	104	14.3	100.0
Total	725	100.0	

Table I-5 Main factor - Service quality of airline

	Frequency	Percent	Cumulative Percent
The most important	223	30.8	30.8
Important	221	30.5	61.2
Relative important	112	15.4	76.7
Less important	44	6.1	82.8
The least important	23	3.2	85.9
No comment	102	14.1	100.0
Total	725	100.0	

APPENDIX III

Table II-1 Rating of Accessibility of HKIA

	Frequency	Percent	Cumulative Percent
Very good	112	15.4	15.4
Good	257	35.4	50.9
Poor	110	15.2	66.1
Very poor	13	1.8	67.9
Not applicable	233	32.1	100.0
Total	725	100.0	

Table II-2 Rating of Safety of HKIA

	Frequency	Percent	Cumulative Percent
Very good	125	17.2	17.2
Good	271	37.4	54.6
Poor	86	11.9	66.5
Very poor	9	1.2	67.7
Not applicable	234	32.3	100.0
Total	725	100.0	

Table II-3 Rating of number of flights of HKIA

	Frequency	Percent	Cumulative Percent
Very good	61	8.4	8.4
Good	205	28.3	36.7
Poor	190	26.2	62.9
Very poor	37	5.1	68.0
Not applicable	232	32.0	100.0
Total	725	100.0	

Table II-4 Rating of price of HKIA

	Frequency	Percent	Cumulative Percent
Very good	51	7.0	7.0
Good	173	23.9	30.9
Poor	216	29.8	60.7
Very poor	46	6.3	67.0
Not applicable	239	33.0	100.0
Total	725	100.0	

Table II-5 Rating of convenience of HKIA

	Frequency	Percent	Cumulative Percent
Very good	93	12.8	12.8
Good	247	34.1	46.9
Poor	132	18.2	65.1
Very poor	16	2.2	67.3
Not applicable	237	32.7	100.0
Total	725	100.0	

Table II-6 Rating of speed of HKIA

	Frequency	Percent	Cumulative Percent
Very good	103	14.2	14.2
Good	245	33.8	48.0
Poor	122	16.8	64.8
Very poor	18	2.5	67.3
Not applicable	237	32.7	100.0
Total	725	100.0	

Table II-7 Rating of overall satisfaction of HKIA

	Frequency	Percent	Cumulative Percent
Very good	72	9.9	9.9
Good	258	35.6	45.5
Poor	153	21.1	66.6
Very poor	10	1.4	68.0
Not applicable	232	32.0	100.0
Total	725	100.0	

Table II-8 Rating of accessibility of SBIA

	Frequency	Percent	Cumulative Percent
Very good	70	9.7	9.7
Good	241	33.2	42.9
Poor	127	17.5	60.4
Very poor	9	1.2	61.7
Not applicable	278	38.3	100.0
Total	725	100.0	

Table II-9 Rating of safety of SBIA

	Frequency	Percent	Cumulative Percent
Very good	71	9.8	9.8
Good	235	32.4	42.2
Poor	131	18.1	60.3
Very poor	5	.7	61.0
Not applicable	283	39.0	100.0
Total	725	100.0	

Table II-10 Rating of number of flights of SBIA

	Frequency	Percent	Cumulative Percent
Very good	57	7.9	7.9
Good	186	25.7	33.5
Poor	180	24.8	58.3
Very poor	27	3.7	62.1
Not applicable	275	37.9	100.0
Total	725	100.0	

Table II-11 Rating of price of SBIA

	Frequency	Percent	Cumulative Percent
Very good	53	7.3	7.3
Good	187	25.8	33.1
Poor	176	24.3	57.4
Very poor	33	4.6	61.9
Not applicable	276	38.1	100.0
Total	725	100.0	

Table II-12 Rating of convenience of SBIA

	Frequency	Percent	Cumulative Percent
Very good	62	8.6	8.6
Good	210	29.0	37.5
Poor	161	22.2	59.7
Very poor	15	2.1	61.8
Not applicable	277	38.2	100.0
Total	725	100.0	

Table II-13 Rating of speed of SBIA

	Frequency	Percent	Cumulative Percent
Very good	65	9.0	9.0
Good	220	30.3	39.3
Poor	146	20.1	59.4
Very poor	15	2.1	61.5
Not applicable	279	38.5	100.0
Total	725	100.0	

Table II-14 Rating of overall satisfaction of SBIA

	Frequency	Percent	Cumulative Percent
Very good	44	6.1	6.1
Good	215	29.7	35.7
Poor	186	25.7	61.4
Very poor	8	1.1	62.5
Not applicable	272	37.5	100.0
Total	725	100.0	